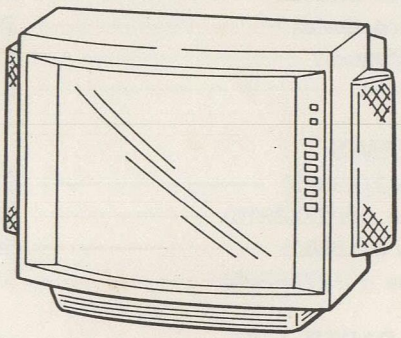
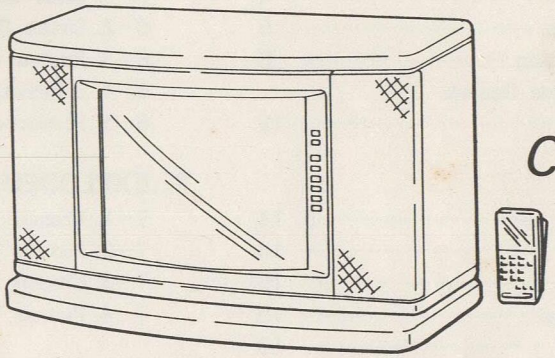
KV-27XBR10/27XBR60
RM-762

SERVICE MANUAL



(KV-27XBR10)



(KV-27XBR60)

US Model
KV-27XBR10
Chassis No. SCC-C59A-A
KV-27XBR60
Chassis No. SCC-C59D-A

Canadian Model
KV-27XBR10
Chassis No. SCC-C60A-A

E Model
KV-27XBR10
Chassis No. SCC-C59A-A

ANU-1 CHASSIS

Note: The service manual for RM-762 has been issued separately.

MODELS OF THE SAME SERIES	
KV-27XBR10/27XBR60	
KV-32XBR10/32XBR70	

SPECIFICATIONS

Television system American TV standards

Channel coverage VHF: 2–13
UHF: 14–69
Cable TV: 1–125

Picture tube Microblack Trinitron tube
27-inch picture measured diagonally
29-inch picture tube measured diagonally

Antenna 75-ohm external antenna terminal for VHF/UHF

Input VIDEO 1, 2 and 3 IN
S VIDEO IN (4-pin mini DIN)
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal) 75-ohms
Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
Audio (phono jacks): 500 mVrms (100% modulation)
Impedance: 47 kilohms

Output MONITOR OUTPUT
S VIDEO OUTPUT (4-pin mini DIN)
Y: 1 Vp-p, 75-ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal) 75-ohms
Video (phono jacks): 1 Vp-p, 75-ohms unbalanced, sync negative
Audio (phono jacks): 500 mVrms (100% modulation)
Impedance: 10 kilohms
AUDIO OUTPUT (VARIABLE) (phono jacks)
More than 408 mVrms at the maximum volume setting (variable)
Impedance: 5 kilohms

Power requirements 120V AC, 60Hz

Power consumption 225W (max.)
1.5W (in standby condition)

Accessories supplied
Programmable Commander **RM-762** with 4 size AA (R6) bateries (1)
Antenna connector (1)

Optional accessories
U/V mixer EAC-66
Connecting cable
VMC-810/820S
YC-15V/30V
Video rack
SU-235X (with super-woofer)
SU-335X (with super-woofer)
SU-251 (black)
SU-330 (black)

Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOR TV
SONY®

TABLE OF CONTENTS

Section	Title	Page
1.	**GENERAL**	
1-1.	Location of Controls	4
1-2.	Presetting TV channels	5
1-3.	Using the Guide Function	6
1-4.	Using the Programmable Remote Commander	12
2.	**DISASSEMBLY**	
2-1.	Rear Cover Removal	14
2-2.	Service Position	14
2-3.	U Board Removal	15
2-4.	Removal of Anode Cap	15
2-5.	Picture Tube Removal	16
3.	**SET-UP ADJUSTMENTS**	
3-1.	Beam Landing	17
3-2.	Convergence	18
3-3.	FOCUS	20
3-4.	G2, White Balance Adjustments	20
4.	**SAFETY RELATED ADJUSTMENTS**	21
5.	**CIRCUIT ADJUSTMENTS**	
5-1.	Electrical Adjustment by Remote Commander	24
5-2.	Circuit Adjustments	26
6.	**DIAGRAMS**	
6-1.	Block Diagram	29
6-2.	Circuit Boards Location	34
6-3.	Printed Wiring Boards	35
6-4.	Schematic Diagrams	37
6-5.	Semiconductors	53
7.	**EXPLODED VIEWS**	
7-1.	Chassis (KV-27XBR10)	54
7-2.	Picture Tube (KV-27XBR10)	55
7-3.	Chassis (KV-27XBR60)	56
7-4.	Picture Tube (KV-27XBR60)	57
8.	**ELECTRICAL PARTS LIST**	58

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

SAFETY CHECK-OUT
(US Model Only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the condition of the monopole antenna (if any).
   Make sure the end is not broken off, and has the plastic cap on it. Point out the danger of impalement on a broken antenna to the customer, and recommend the antenna's replacement.
8. Check the B+ and HV to see they are at the values specified. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
9. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60–100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

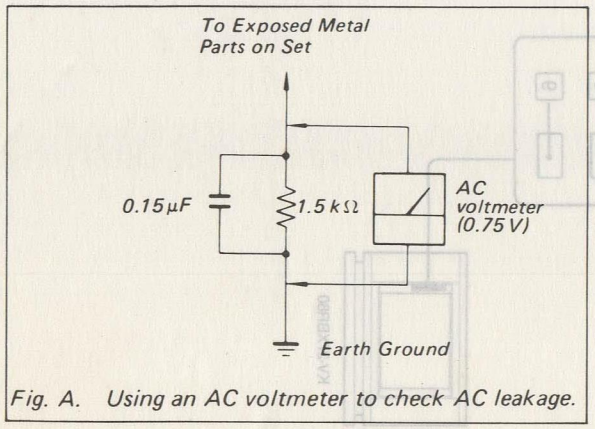


Fig. A. Using an AC voltmeter to check AC leakage.

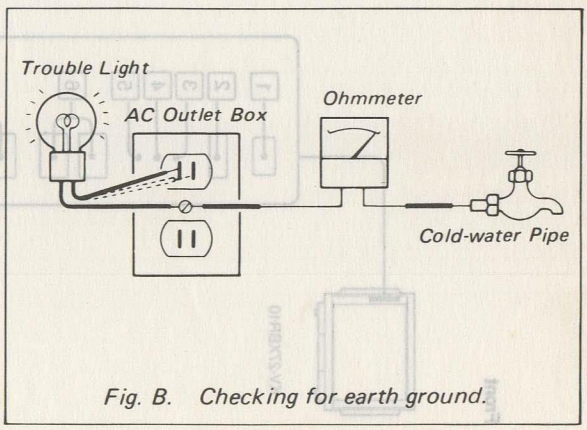
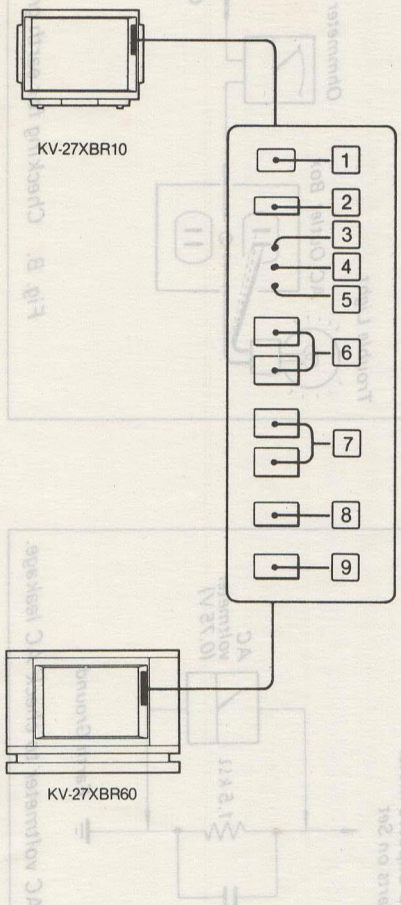


Fig. B. Checking for earth ground.

SECTION 1
GENERAL

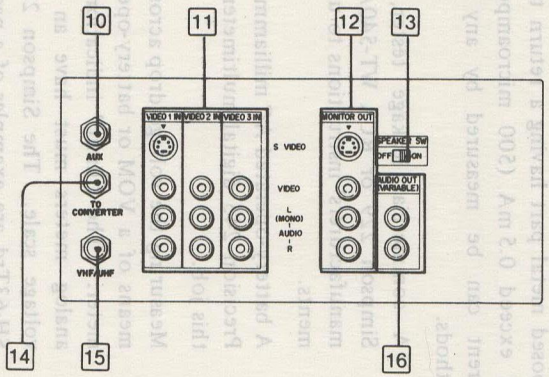
1-1. LOCATION OF CONTROLS

Front



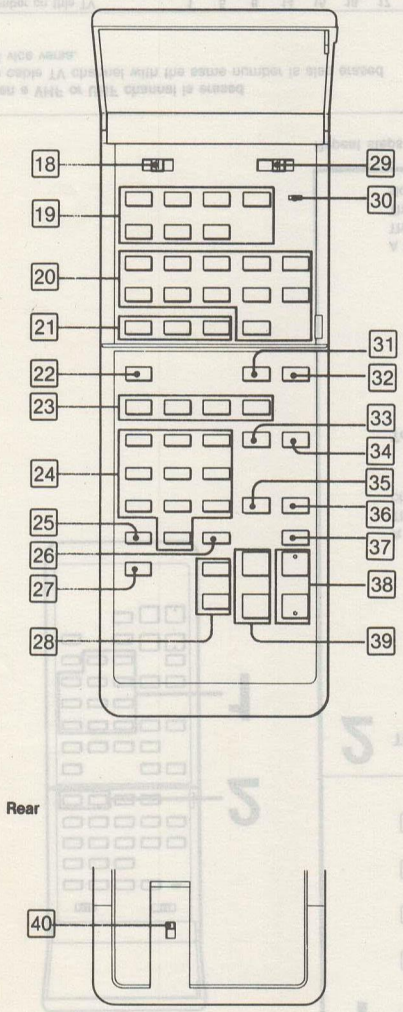
1 Remote control detector
2 POWER switch
3 SLEEP indicator
4 STEREO indicator
5 TIMER indicator
6 CHANNEL scan buttons
7 VOLUME buttons
8 TV/VIDEO button
9 SRS (Sound Retrieval System) button

Rear



10 AUX (auxiliary) terminal
11 VIDEO 1, 2, 3 IN jacks
12 MONITOR OUT jacks
13 SPEAKER SW (switch)
14 TO CONVERTER terminal
15 VHF/UHF antenna terminal
16 AUDIO OUT (VARIABLE) jacks

Programmable Commander RM-762



18 **RM-762:** VIDEO/CABLE selector

19 **AV WINDOW buttons**

20 **RM-762:** Buttons used for Sony video equipment

21 **Channel presetting buttons**

22 **MUTING button**

23 **Input select buttons*** (TV, VIDEO 1, VIDEO 2, VIDEO 3)

24 **Channel number buttons**

25 **DISPLAY button**

26 **ENTER button**

27 **TIME button**

28 **PICTURE buttons**

29 **VTR 1/2/3/MDP selector**

30 **LEARN indicator**

31 **SLEEP button**

32 **POWER button***

33 **CABLE button**

34 **ANT/AUX button**

35 **SRS (Sound Retrieval System) button***

36 **MTS (Multichannel TV Sound) button**

37 **JUMP button**

38 **CH (channel) scan buttons***

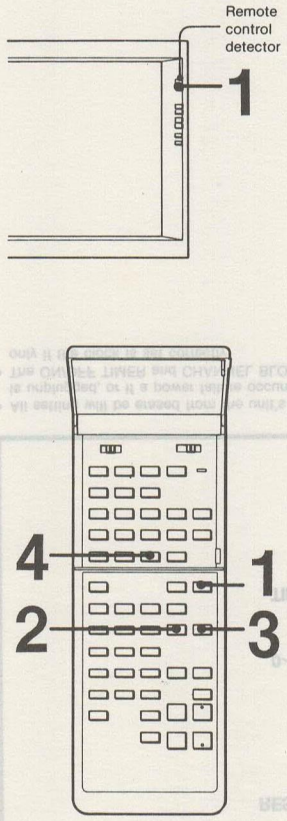
39 **VOL (volume) buttons***

40 **USE-LEARN switch**

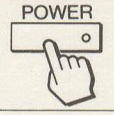
*These buttons are also on the TV.
(Models equipped with picture-in-picture function do not have a SRS button on the TV).

1-2. PRESETTING TV CHANNELS

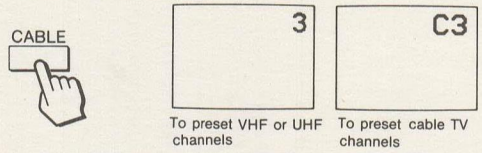
To Preset All Receivable Channels Automatically



1 **Press POWER on the TV or the Remote Commander to turn the TV on.**



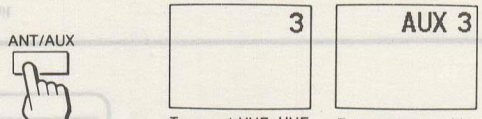
2 **Press CABLE so that the appropriate mode appears.**



To preset VHF or UHF channels

To preset cable TV channels

3 **Press ANT/AUX according to the channel to be preset.**



To preset VHF, UHF or regular cable TV channels

To preset pay cable TV channels

4 **Press AUTO PGM.**

"AUTO PROGRAM" is displayed on the screen and receivable channels (other than the channels already preset) will be preset in numerical sequence. The channels preveiously preset remain in the unit's memory.
When no more channels can be found, the programming stops and the lowest numbered channel is displayed.

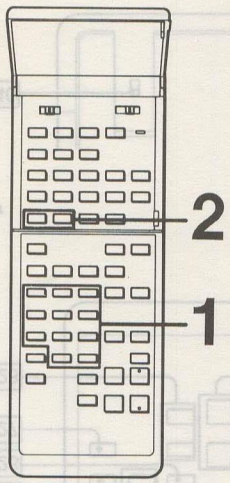
Receivable channels of this TV are:
VHF: 2-13
UHF: 14-69
Cable: 1-125

To add the channels that could not be preset with automatic programming because their signal strength was too weak, or **to erase unnecessary channels,** follow the steps in "To preset only the desired channels" on the next page.

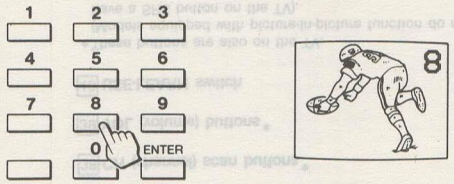
To check preset channels
Press CH +/−.

If the indication "VIDEO 1, VIDEO 2, VIDEO 3, S VIDEO, LD, or VTR" is displayed on the screen
Press the TV/VIDEO button on the TV or the TV button on the Remote Commander so that a channel number appears.

To Preset Only the Desired Channel or to Erase Unnecessary Channels



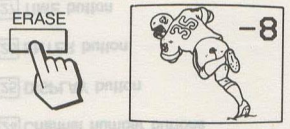
1 Press the channel number button(s) and then ENTER to select the channel to be added or erased.



2 To add channels — Press ADD.

A "+" appears for a moment.
This channel has now been added to the channel scan memory.

To erase channels — Press ERASE.



A "–" appears for a moment.
This channel has now been erased from the channel scan memory. The next time the CH +/– button is pressed, this channel will be skipped.

Repeat steps 1 and 2 for other channels to be added or erased.

When a VHF or UHF channel is erased
The cable TV channel with the same number is also erased and vice versa.

Cable TV channel chart*
Cable TV systems use letters or numbers to designate channels. To tune in a channel, refer to the chart below.

Number on this TV	1	5	6	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Corresponding CATV channel	A–8	A–7	A–6	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q

31	32	33	34	35	36	37	38	39	.....	93	94	95	96	97	98	99	100	101	102	.....	123	124	125
R	S	T	U	V	W	W+1	W+2	W+3	.....	W+57	W+58	A–5	A–4	A–3	A–2	A–1	W+59	W+60	W+61	.....	W+82	W+83	W+84

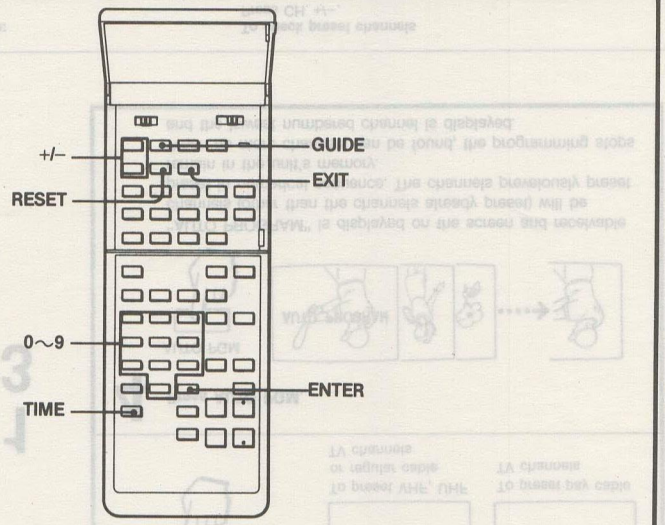
Check with your local cable TV company for more complete information on the available channels.

*The designation of the cable TV channels conforms to the EIA/NCTA recommendation.

1-3. USING THE GUIDE FUNCTION

The GUIDE function calls up the on-screen menu and instructions on how to set the current time, timer, channel block, video label, and channel caption.

Buttons used for GUIDE function



- All setting will be erased from the unit's memory if the unit is unplugged, or if a power failure occurs.
- The ON/OFF TIMER and CHANNEL BLOCK will operate only if the clock is set correctly.

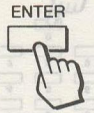
Setting the Clock

Example: To set the clock to 5:30 PM, Monday.

1 **Press GUIDE.**
Press repeatedly until "CURRENT TIME SET" turns red.

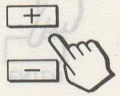
```
GUIDE
CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
VIDEO LABEL
CHANNEL CAPTION
```

2 **Press ENTER.**




```
CURRENT TIME SET
  SUN --:-- AM

SELECT TODAY'S
DAY.
PLEASE USE[+][-]
&[ENTER].
```

3 **Press +/– until the desired day of the week appears.**




```
CURRENT TIME SET
  MON --:-- AM

SELECT TODAY'S
DAY.
PLEASE USE[+][-]
&[ENTER].
```

4 **Press ENTER.**
If the time is already set, the current set time will appear. To clear these numbers, press any number.

```
CURRENT TIME SET
  MON --:-- AM

SET THE CURRENT
TIME.
PLEASE USE[0-9]
&[ENTER].
```

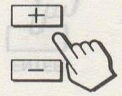
5 **Press 0–9 to set the desired time.**
(For 5:30, press 0,5,3,0)

```
CURRENT TIME SET
  MON 05:30 AM

SET THE CURRENT
TIME.
PLEASE USE[0-9]
&[ENTER].
```

6 **Press ENTER.**

```
CURRENT TIME SET
  MON 05:30 AM

SELECT AM OR PM.
PLEASE USE[+][-]
&[ENTER].
```

7 **Press +/– to set AM or PM.**




```
CURRENT TIME SET
  MON 05:30 PM

SELECT AM OR PM.
PLEASE USE[+][-]
&[ENTER].
```

8 **Press ENTER.**
The moment ENTER is pressed, the clock will start.
Now, the clock is set. The indication will disappear after approx. 5 seconds.

```
CURRENT TIME SET
  MON 5:30 PM

CURRENT TIME IS
SET. THANK YOU.
```

To restore the normal picture
Press EXIT.

To clear the current time setting
Display the "CURRENT TIME SET" page and press RESET, then EXIT.

To reset the setting
Display the "CURRENT TIME SET" page and press RESET, then repeat steps 3 to 8.

Notes

- The internal clock of this TV operates on a 12-hour cycle. If a 24-hour cycle number is entered, it will be cleared when ENTER is pressed.

12:00 AM stands for midnight.
12:00 PM stands for noon.

- To display the current time, press TIME.

Setting the ON/OFF Timer

ON/OFF TIMER allows the program of your choice to appear on the screen at the desired time.

Example: Set the timer to turn on the TV to channel 8 at 1:00 PM for 3 hours every Monday through Friday.

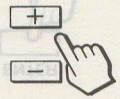
1 **Press GUIDE.**
Press repeatedly until "ON/OFF TIMER" turns red.

```
GUIDE

CURRENT TIME SET
ON/OFF TIMER
CHANNEL BLOCK
VIDEO LABEL
CHANNEL CAPTION
```

2 **Press ENTER.**
If the clock has not been set, "PLEASE SET CURRENT TIME FIRST" appears on the screen.

```
ON/OFF TIMER
EVERY SUN-SAT
--:-- AM _H CH___
SELECT THE DAY.
PLEASE USE[+][-]
&[ENTER].
```

3 **Press +/– until the desired day of the week appears.**



```
ON/OFF TIMER
EVERY MON-FRI
--:-- AM _H CH___
SELECT THE DAY.
PLEASE USE[+][-]
&[ENTER].
```

4 **Press ENTER.**

```
ON/OFF TIMER
EVERY MON-FRI
--:-- AM _H CH___
SET THE TIME.
PLEASE USE [0-9]
& [ENTER].
```

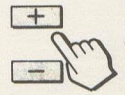
5 **Press 0–9 to set the desired time.**
(For 1:00, press 0, 1, 0, 0.)

```
ON/OFF TIMER
EVERY MON-FRI
01:00 AM _H CH___
SET THE TIME.
PLEASE USE [0-9]
& [ENTER].
```

6 **Press ENTER.**

```
ON/OFF TIMER
EVERY MON-FRI
01:00 AM _H CH___
SELECT AM OR PM.
PLEASE USE[+][-]
& [ENTER].
```

7 **Press +/– to set AM or PM.**

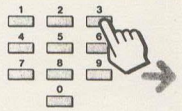


```
ON/OFF TIMER
EVERY MON-FRI
01:00 PM _H CH___
SELECT AM OR PM.
PLEASE USE[+][-]
& [ENTER].
```

8 **Press ENTER.**

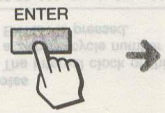
```
ON/OFF TIMER
EVERY MON-FRI
01:00 PM _H CH___
SET THE DURATION.
PLEASE USE [0-9]
& [ENTER].
```

9 **Press a number button to set the duration.**
(Up to 9 hours can be set).



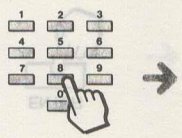

```
ON/OFF TIMER
EVERY MON-FRI
01:00 PM 3H CH___
SET THE DURATION.
PLEASE USE [0-9]
& [ENTER].
```

10 **Press ENTER.**



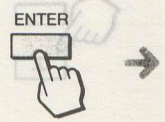

```
ON/OFF TIMER
EVERY MON-FRI
01:00 PM 3H CH___
SET THE CHANNEL
PLEASE USE [0-9]
& [ENTER].
```

11 **Press 0–9 to set the desired channel number.**




```
ON/OFF TIMER
EVERY MON-FRI
01:00 PM 3H CH__8
SET THE CHANNEL
PLEASE USE [0-9]
& [ENTER].
```

12 **Press ENTER.**
Now ON/OFF timer is set.
The TIMER indicator on the TV lights up.




```
ON/OFF TIMER
EVERY MON-FRI
-1:00 PM 3H CH__8
ON/OFF TIMER IS
SET. THANK YOU.
```

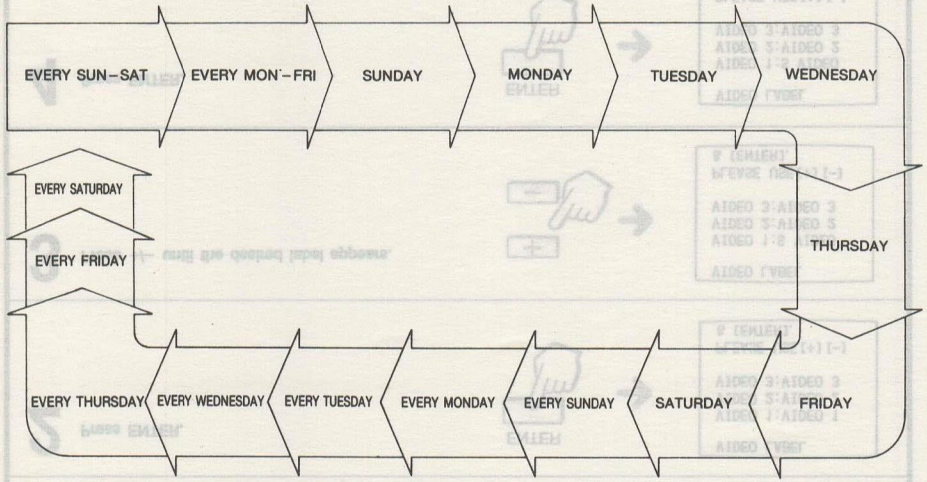
To restore the normal picture
Press EXIT.

To clear the setting
Display the "ON/OFF TIMER" page and press RESET, then EXIT.

To reset the setting
Display the "ON/OFF TIMER" page and press RESET, then repeat steps 3 to 12.

The indication "TIMER WILL BE OFF" will appear one minute before the timer goes off.

Note The selectable days will appear when you press [+] in the following order:



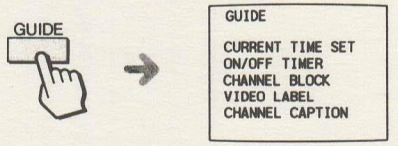
Press [–] for reverse direction.

Setting the Channel Block

CHANNEL BLOCK prevents a channel from appearing on the screen for preset hours. We suggest you use this function to prevent children from watching undesirable programs.

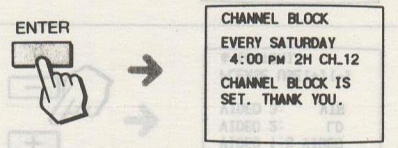
Example: Set the CHANNEL BLOCK at 4:00 PM (for 1 hour), every Saturday, at channel 12.

1 **Press GUIDE.**
Press repeatedly until "CHANNEL BLOCK" turns red.



Step **2–11**: Same as Setting the ON/OFF Timer.

12 **Press ENTER.**
Now CHANNEL BLOCK is set.
At the preset time, the picture of the selected channel will be blocked from view and the sound will be muted. A red "BLOCKED" indication will appear on the screen while the channel is blocked.



To restore the normal picture
Press EXIT.

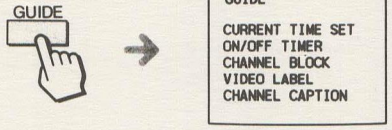
To clear the setting
Display the "CHANNEL BLOCK" page and press RESET, then EXIT.

To reset the setting
Display the "CHANNEL BLOCK" page and repeat steps from the beginning.

Each video input mode can be labeled as VTR, S VIDEO, or LD so that you can easily identify what equipment is connected to which input terminal.
When the label is entered, this TV automatically adjusts itself internally to enhance the picture quality for the labeled euipment.

Example: Label VIDEO 1 with S VIDEO, VIDEO 2 with LD, and VIDEO 3 with VTR.

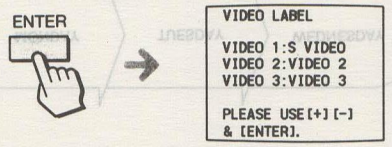
1 **Press GUIDE.**
Press repeatedly until "VIDEO LABEL" turns red.



2 **Press ENTER.**

3 **Press +/– until the desired label appears.**

4 **Press ENTER.**

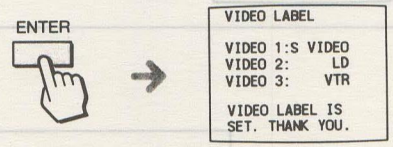


5 **Press +/– until the desired label appears.**

6 **Press ENTER.**

7 **Press +/– until the desired mode appears.**

8 **Press ENTER.**
Now, VIDEO LABEL is set.



To restore the normal picture
Press EXIT.

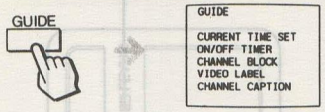
For the models with only one S VIDEO IN jack
The "S VIDEO" label cannot be entered for VIDEO 2 and 3.

Captioning the TV Stations

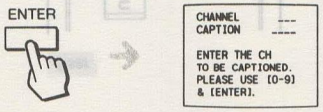
You can give a station name to up to 32 program positions to identify the received channel for display on the screen together with the program position number, using up to four characters.

Example: To name program position 15 "ABC".

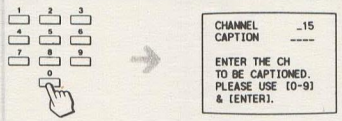
1 **Press GUIDE.**
Press repeatedly until "CHANNEL CAPTION" turns red.



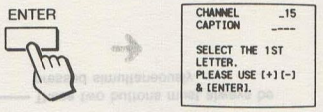
2 **Press ENTER.**



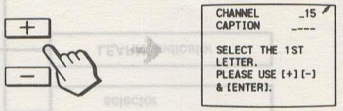
3 **Press 0–9 to set the channel to be captioned.**
(For 15, press 1, then 5.)



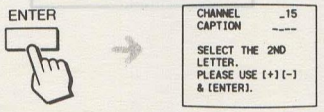
4 **Press ENTER.**
If the caption is already set, the letters/numbers will appear.



5 **Press +/– until the desired letter or number appears.**
You can leave the underline to make a column blank.



6 **Press ENTER.**



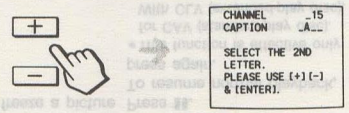
To restore the normal picture
Press EXIT.

To clear the setting
Display the "CHANNEL CAPTION" page and press RESET, then EXIT.

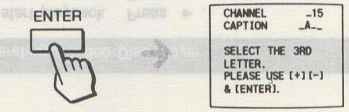
To reset the setting
Display the "CHANNEL CAPTION" page and press RESET, then repeat steps 3 to 12.

Notes
When the memory is full, the indication "MEMORY FULL. PLEASE REFER TO MANUAL" will appar.
In this case, clear the unnecessary setting.

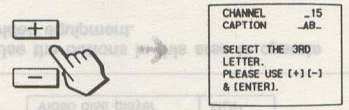
7 **Press +/– until the desired letter or number appears.**



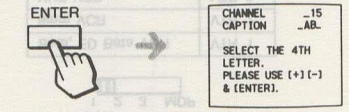
8 **Press ENTER.**



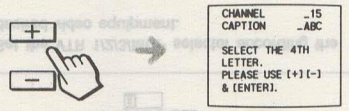
9 **Press +/– until the desired letter or number appears.**



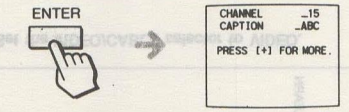
10 **Press ENTER.**



11 **Press +/– until the desired letter or number appears.**

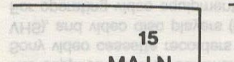


12 **Press ENTER.**
Now the CHANNEL CAPTION is set. If you want to name more station , press [+] and repeat steps 3 to 12.

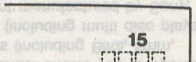


Four blank spaces can be memorized as one caption. To check if the blanks are captioned, press DISPLAY and check the channel display as follows:

No caption



Blank caption



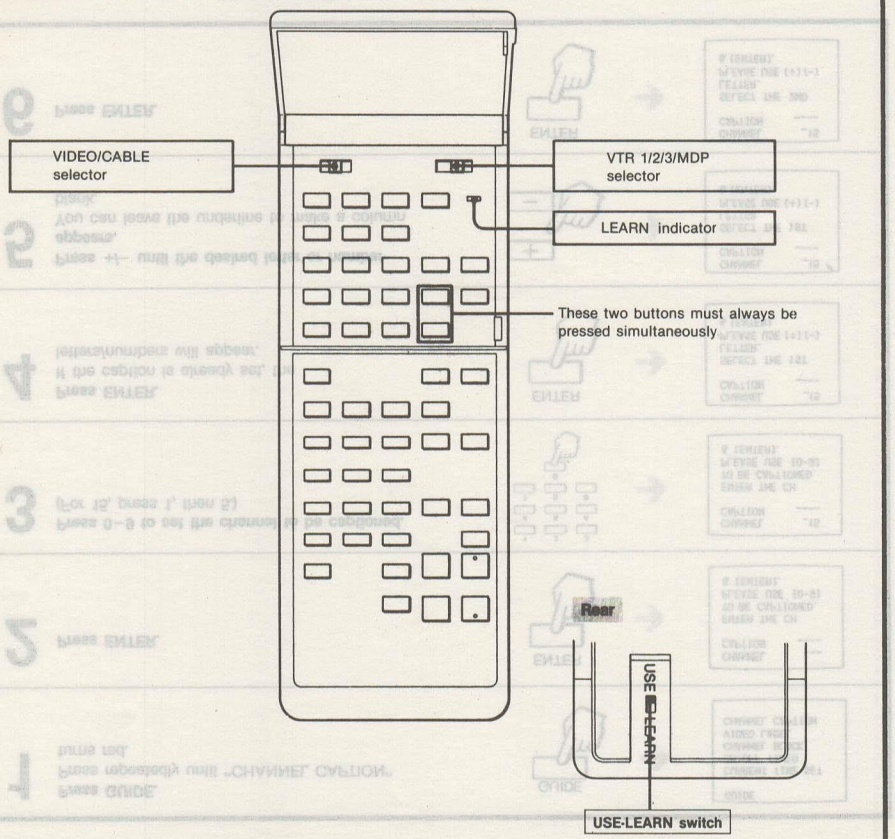
1-4. USING THE PROGRAMMABLE REMOTE COMMANDER

The supplied RM-762 Remote Commander allows you to operate other Sony video equipment having an infrared remote control detector. Furthermore, it can "read" and "store" the functions of another Remote Commanders made by Sony and other manufacturers which use an infrared beam. Thanks to this "learning" ability, you can operate your home audio and video equipment with only one Remote Commander.

Parts Used for Learning Function

Programmable area

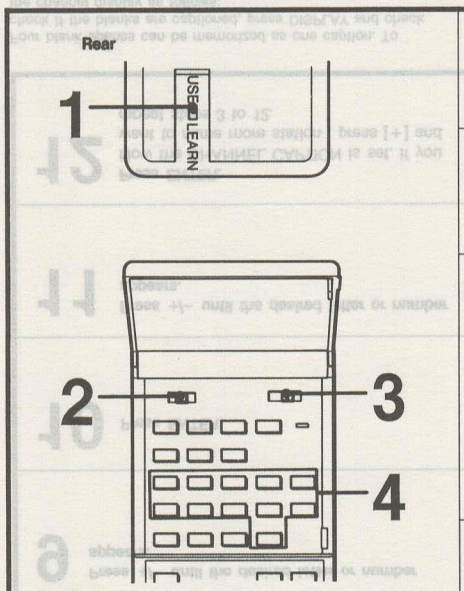
The buttons which are capable of learning functions are shaded in [ ]



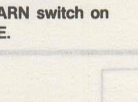
Normally, set to USE.
When having the commander memorize the functions, set to LEARN.

Operating Sony Video Equipment

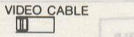
The supplied Remote Commander allows you to operate Sony video cassette recorders (including Beta, 8mm, VHS), and video disc players (including multi disc player). For operating video equipment manufactured by Sony, "learning" is unnecessary.



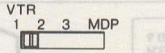
1 Set to USE-LEARN switch on the rear to USE.



2 Set the VIDEO/CABLE selector to VIDEO.



3 Set the VTR 1/2/3/MDP selector according the desired video equipment.



Beta, ED Beta VCR	VTR 1
8mm VCR	VTR 2
VHS VCR	VTR 3
Video disc player	MDP

4 Use the buttons in this area to operate video equipment.

Operating a Video Cassette Recorder

To start playback	Press ► .
To stop	Press ■ .
	To advance the tape rapidly Press ►► .
To rewind the tape	Press ◄◄ .
To freeze a picture	Press ❚❚ .
	To resume normal playback, press again.
To view the picture at a fast speed to find a particular scene	Keep pressing ►► or ◄◄ during playback. To resume normal playback, release the button.

Operating a Video Disc Player

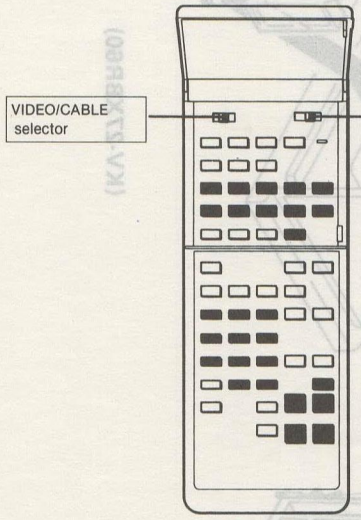
To start playback	Press ► .
To stop	Press ■ .
To freeze a picture	Press ❚❚. To resume normal playback, press again. * This function is effective only for CAV (standard-play disc). With CLV (extended-play disc), the unit will go into the standby mode if ❚❚ is pressed.
To view the picture at a fast speed to find a particular scene	Keep pressing ►► or ◄◄ during playback. To resume normal playblak, release the button.

• If the equipment does not have a certain function, the corresponding button on this Remote Commander is not effective.

Operating Audio and Video Equipment of Other Manufacturers, or Sony Audio Equipment

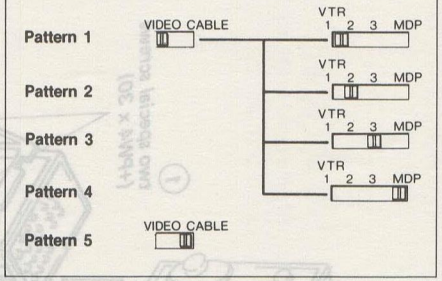
Within the programmable area, any button can memorize the function of the Remote Commander supplied with Sony audio and other manufacturer's equipment. Up to 5 functions can be memorized per button.

Programmable area



Up to five functions can be memorized on a button by setting the selectors as follows:

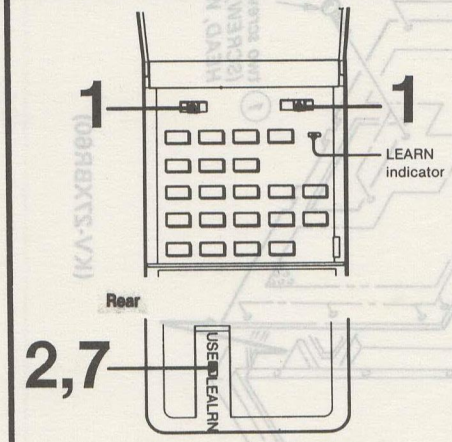
Selector Pattern



For patterns 1–4, setting both selectors is necessary.

For your convenience:
- Set the selector to the position which is not used for your Sony video equipment.
- Memorize the new function on the button which has the same kind of function. (e.g. Stop function → ■ button, playback function → ▶ button.)

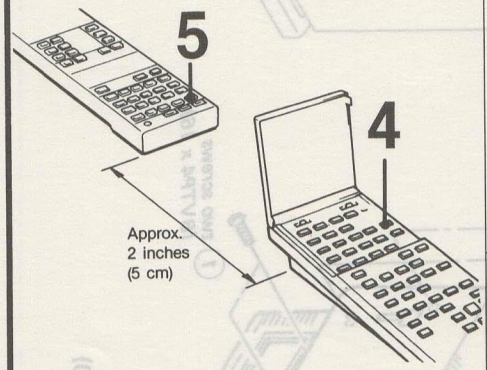
How to Use the Learning Function



1 **Set the VIDEO/CABLE selector and VTR 1/2/3/MDP selector to the appropriate position.**

2 **Set the LEARN-USE selector to LEARN.**

3 **Position this Remote Commander and the other Remote Commander head to head, approximately 2 inches (5 cm) apart.**



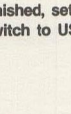
4 **Momentarily press the button of this commander on which a function is to be memorized.**
The LEARN indicator lights up.
(Beep).
Now it's ready for learning.

Note
If you press a button which is not programmable, the commander will beep 8 times repeatedly.

5 **Keep pressing the function button of the other Remote Commander until the LEARN indicator goes out.** A long beep is also heard which confirms that the learning was successfully completed.

6 **To continue learning other functions repeat steps 4 to 5.**

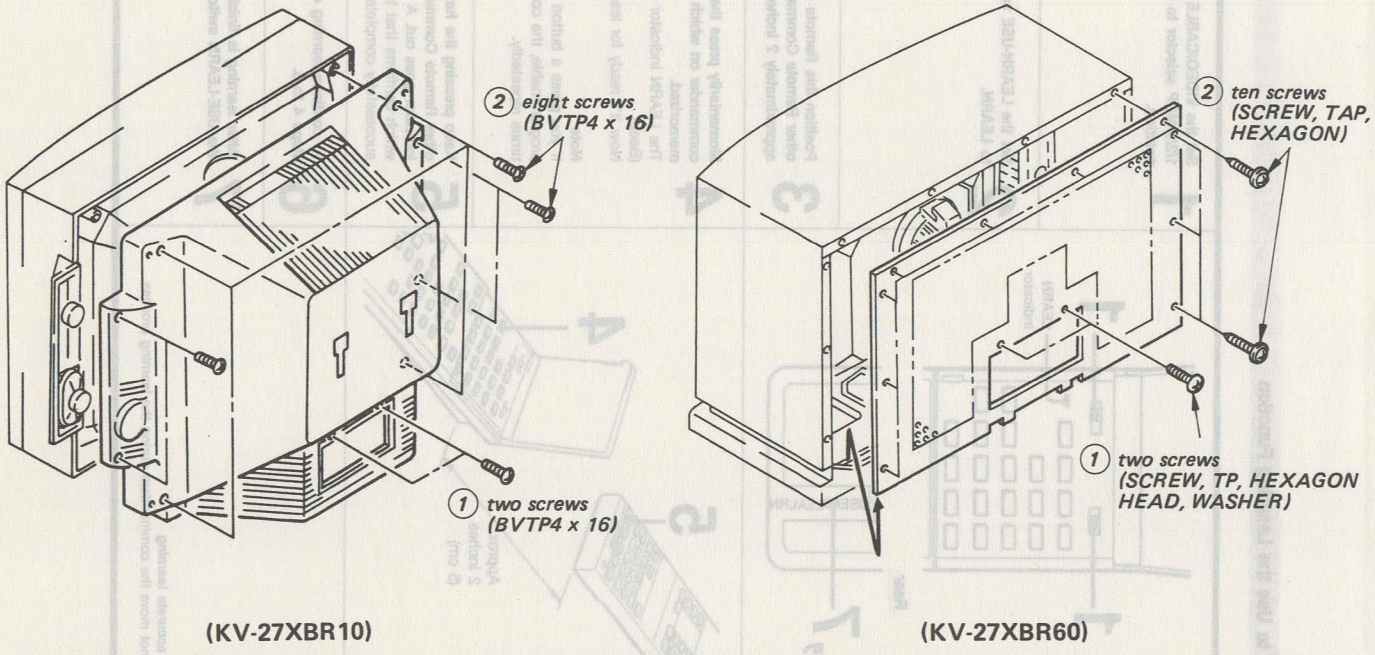
7 **After learning is finished, set the USE-LEARN switch to USE.**



For accurate learning
Do not move the commanders during the learning process.

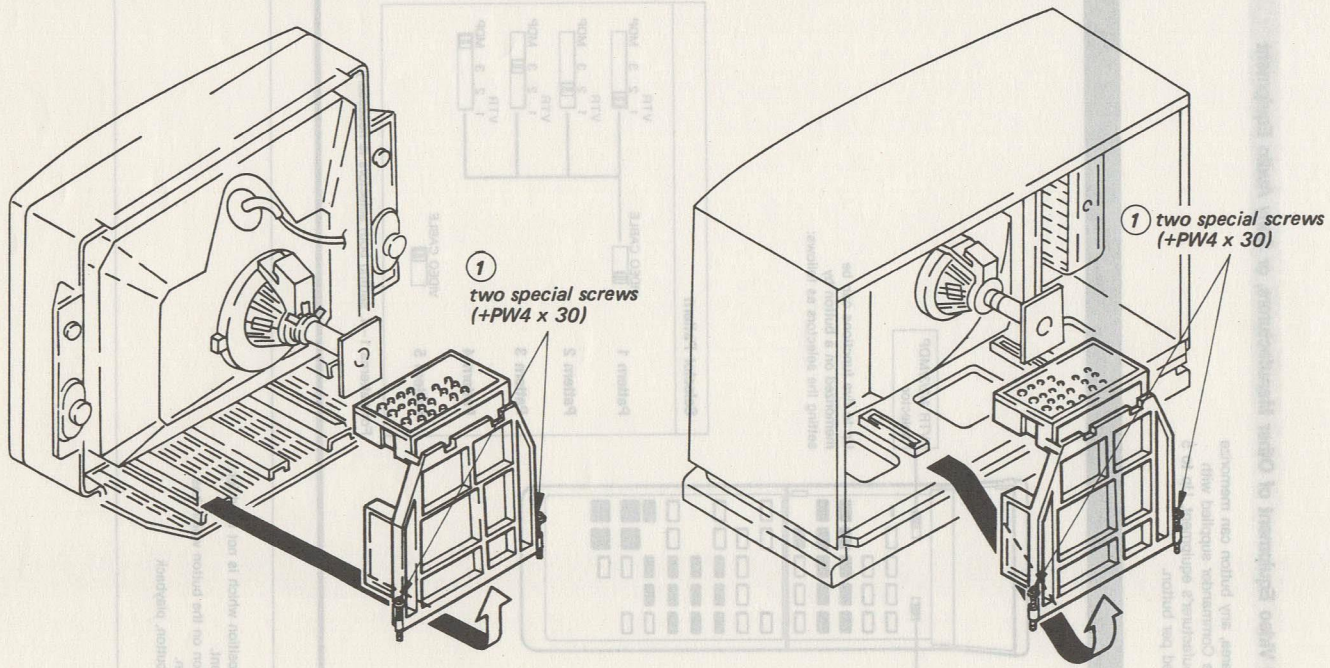
SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL



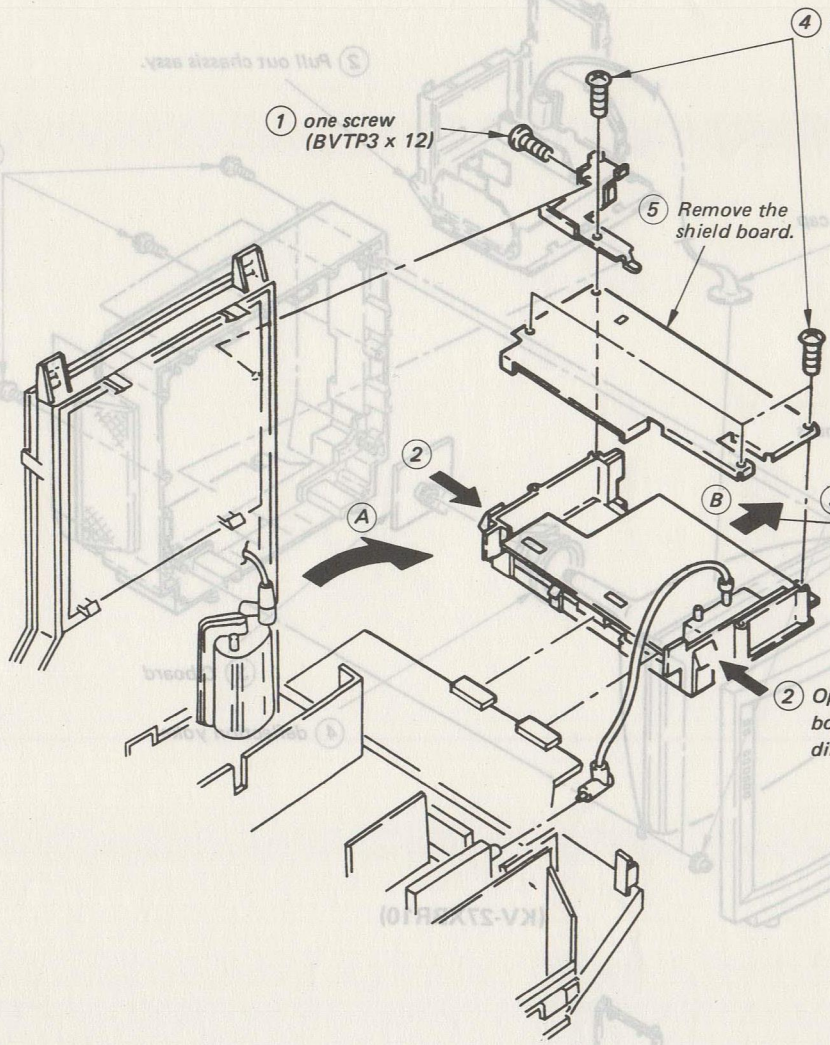
(KV-27XBR10) (KV-27XBR60)

2-2. SERVICE POSITION



(KV-27XBR10) (KV-27XBR60)

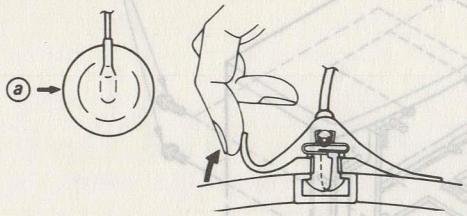
2-3. U BOARD REMOVAL



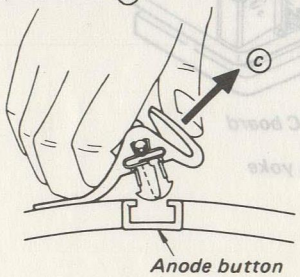
2-4. REMOVAL OF ANODE CAP

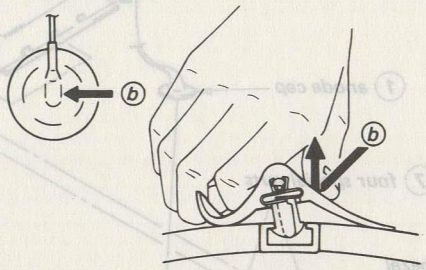
ANODE CAP REMOVAL

- **Removing Procedures**



(1) *Turn up one side of the rubber cap in the direction indicated by the arrow (a).*

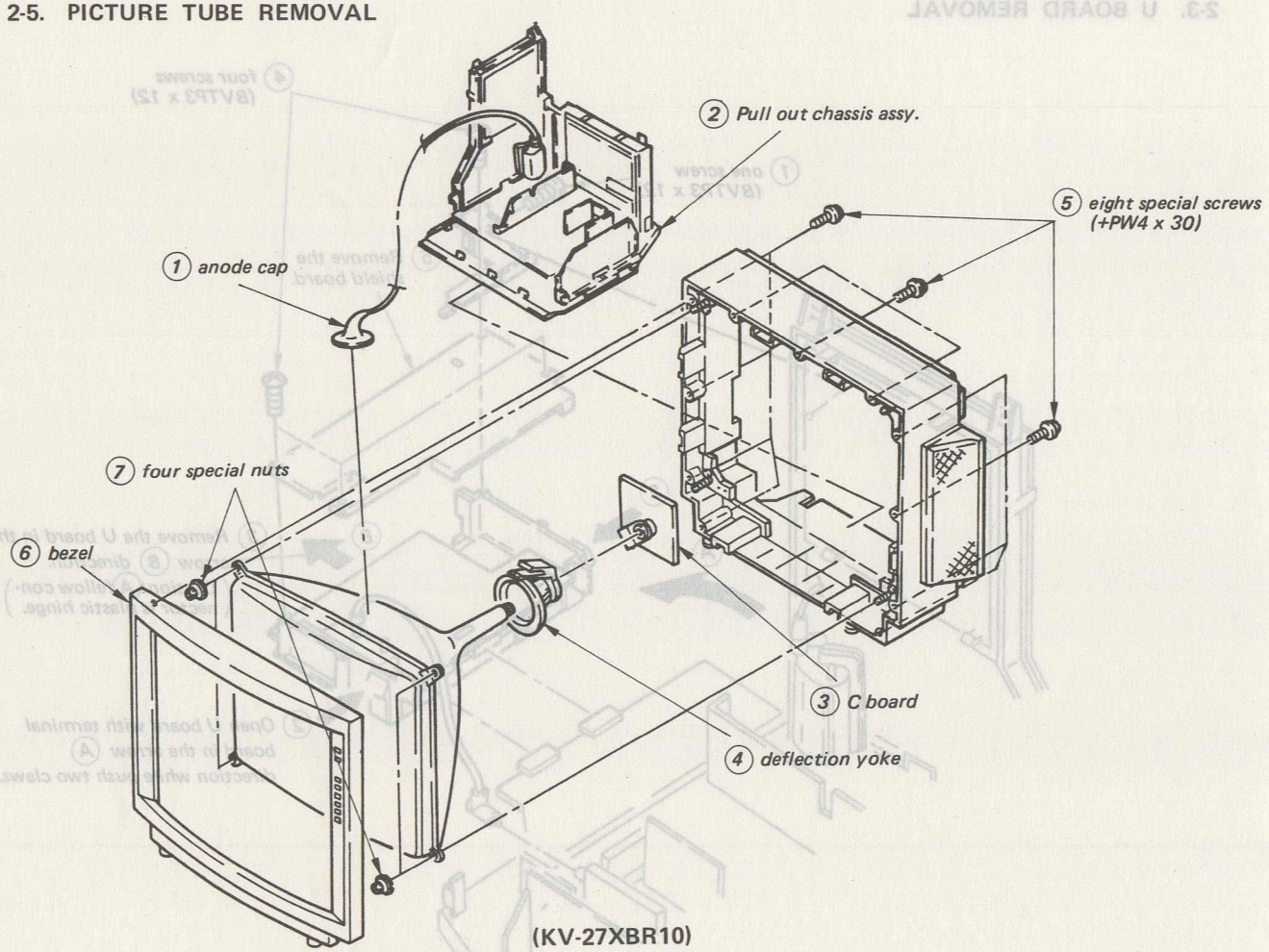




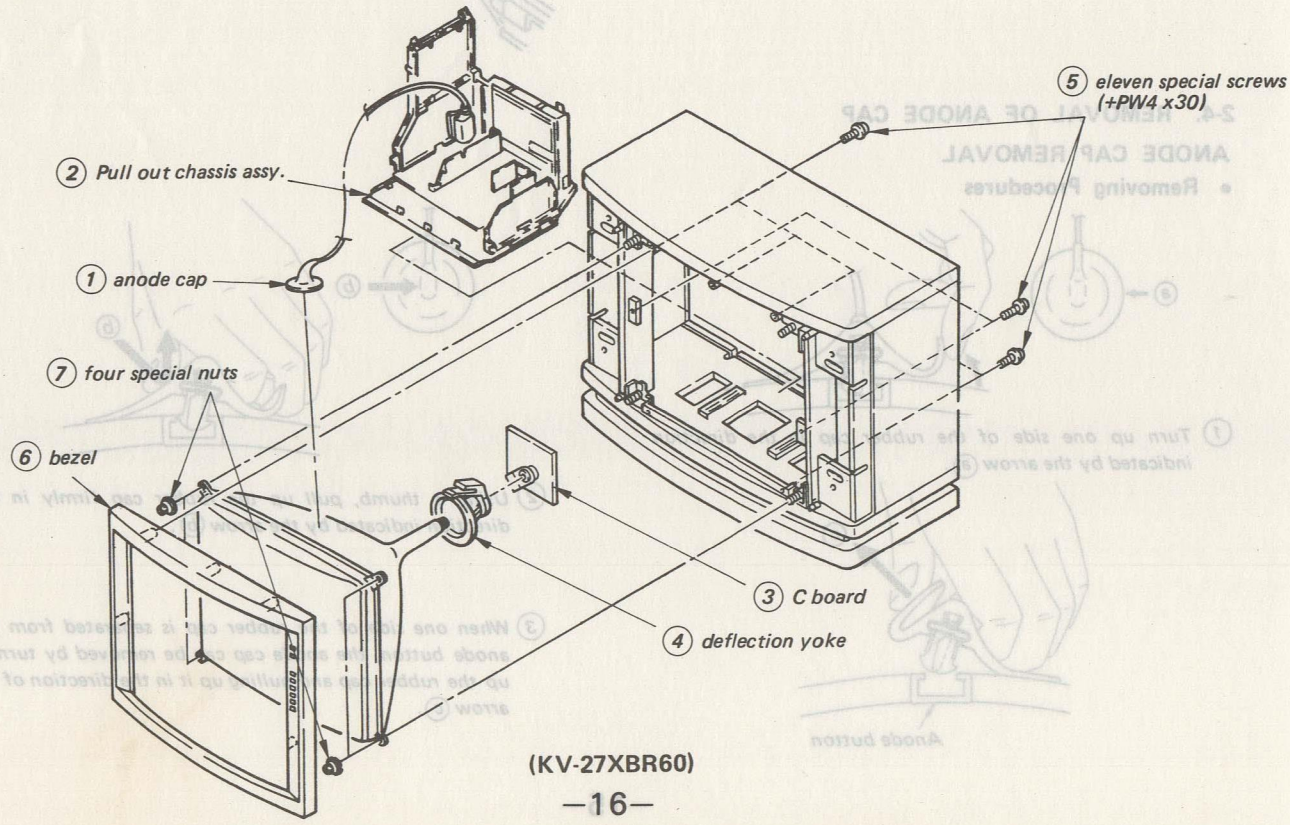
(2) *Using a thumb, pull up the rubber cap firmly in the direction indicated by the arrow (b).*

(3) *When one side of the rubber cap is separated from the anode button, the anode cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow (c).*

2-5. PICTURE TUBE REMOVAL



(KV-27XBR10)



(KV-27XBR60)

SECTION 3
SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

PICTURE control ..... normal
BRIGHTNESS control ..... normal

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

Note : Test Equipment Required.

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter

Preparation :

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3-1. BEAM LANDING

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig. 2.
3. Turn the raster signal of the pattern generator to red.
4. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly. (Fig. 3.)
5. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig. 1.)
6. Switch over the raster signal to blue and green and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
8. When landing at the corners is not right, adjust by using the magnet. (Fig. 4.)

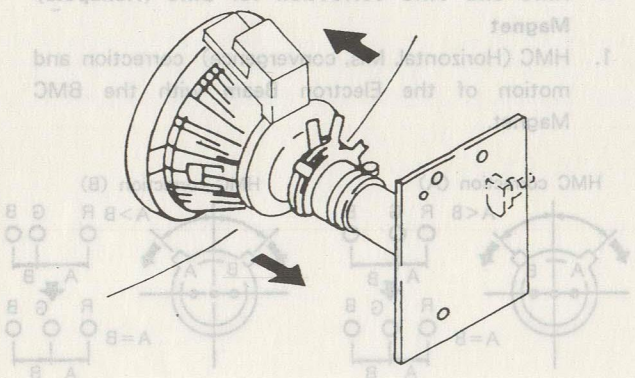


Fig. 1.

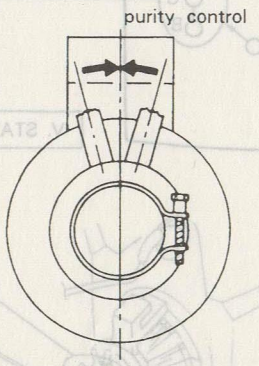


Fig. 2.

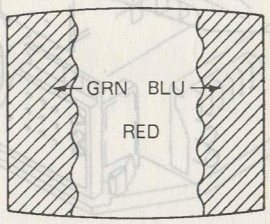


Fig. 3.

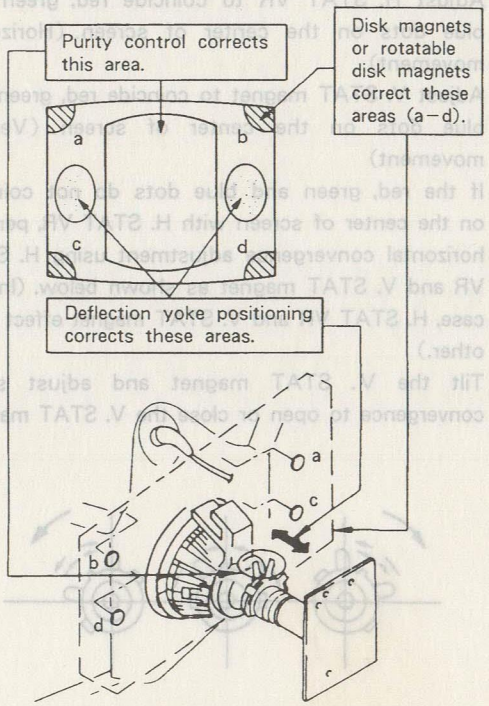


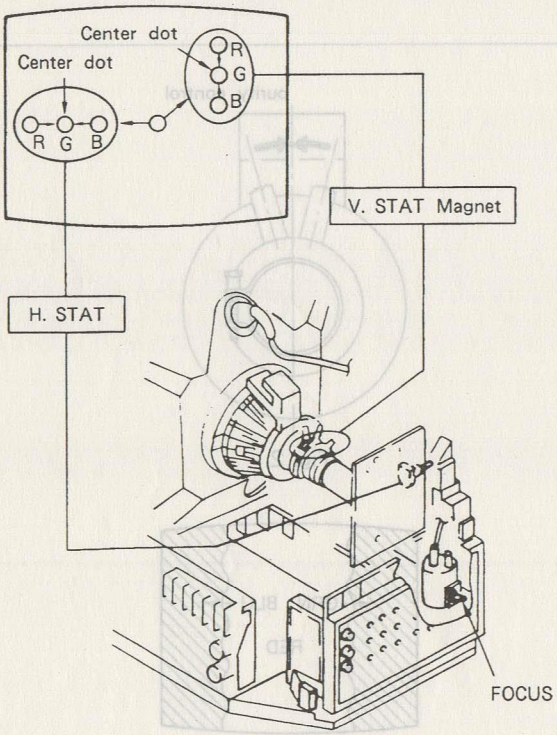
Fig. 4.

3-2. CONVERGENCE

Preparation :

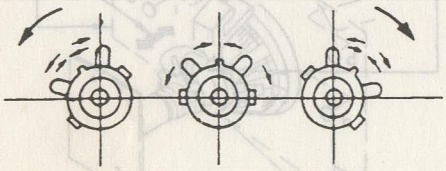
- Before starting, perform FOCUS, H. SIZE, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

(1) Horizontal and Vertical Static Convergence

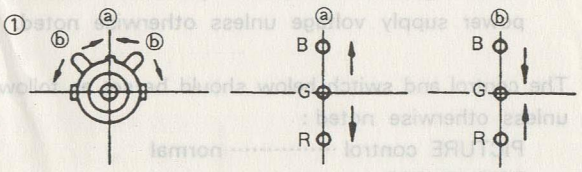


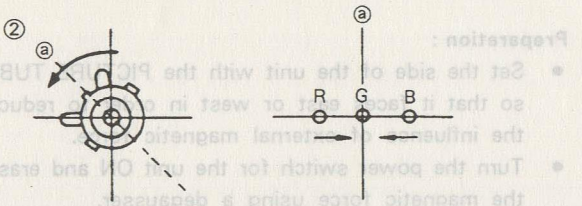
1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)
3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)

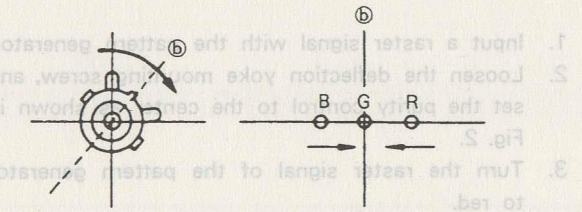
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.

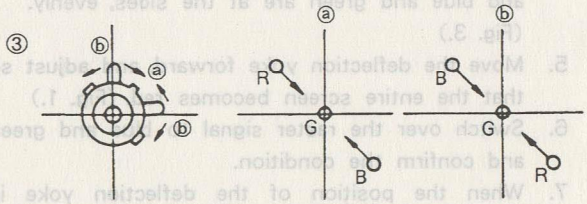


4. When the V. STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.





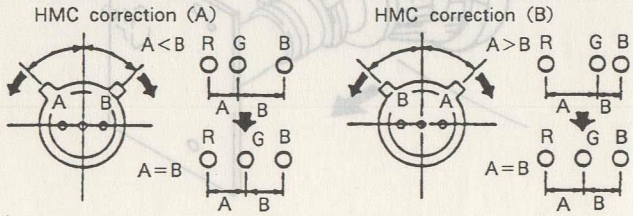




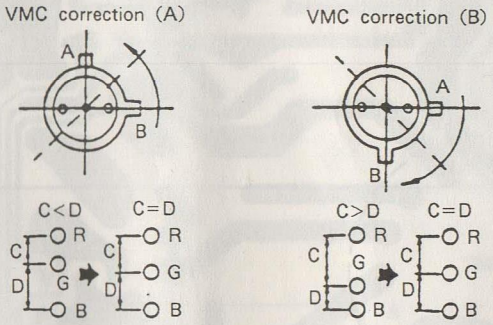
If the blue dot do not coincide with red and green dots, perform following steps.

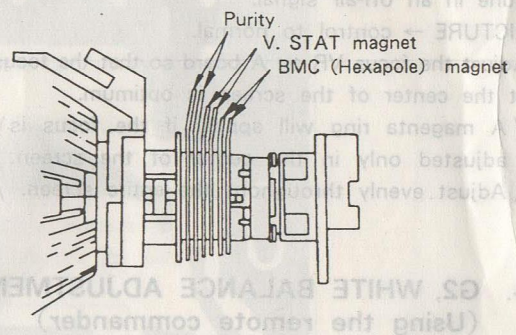
- **HMC and VMC correction for BMC (Hexapole) Magnet**

1. HMC (Horizontal, Mis, convergence) correction and motion of the Electron Beam with the BMC Magnet.



2. VMC (Vertical, Mis, convergence) correction and motion of the Electron Beam with the BMC Magnet.



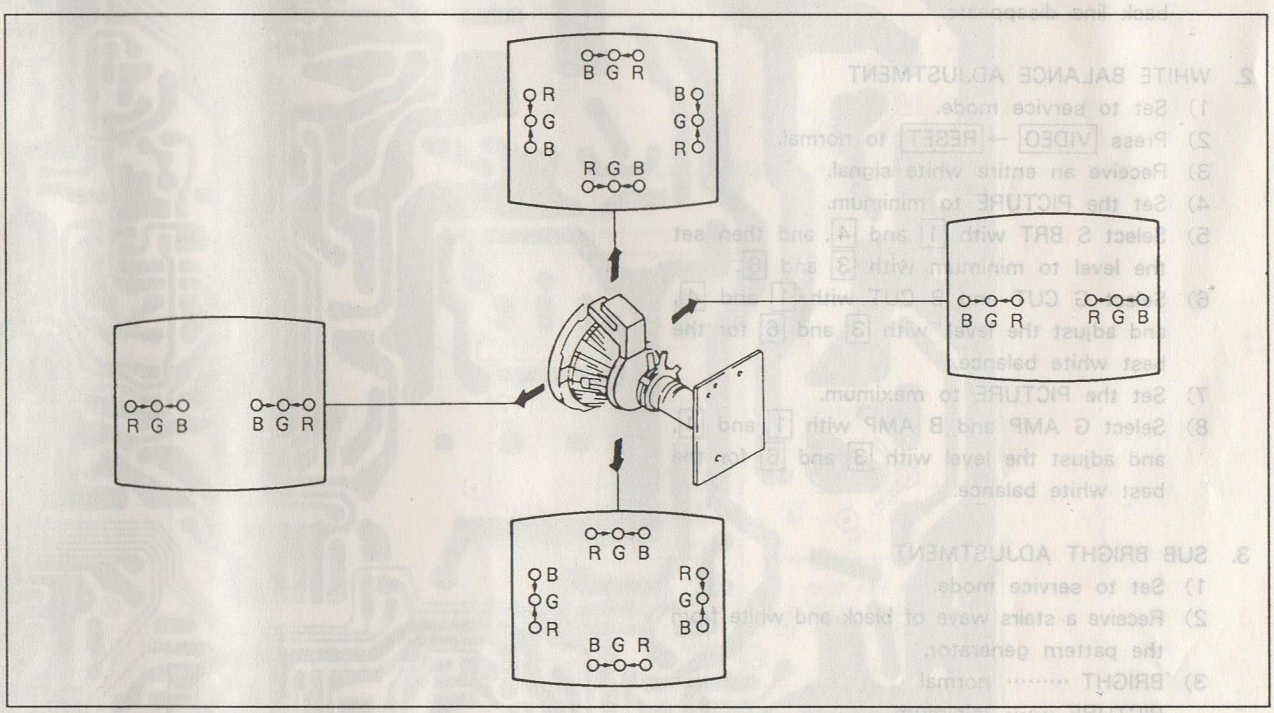


(2) Dynamic Convergence Adjustment

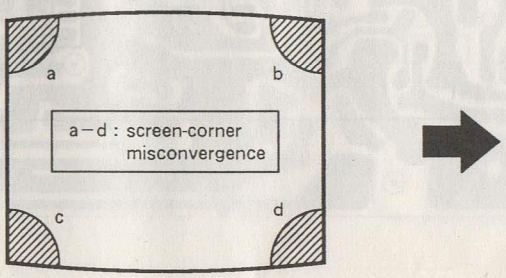
Preparation :

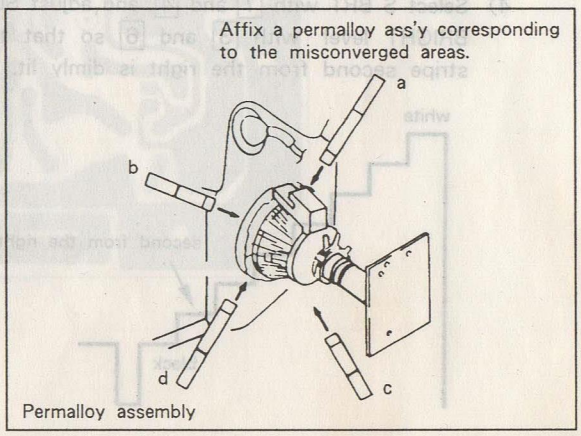
- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.



(3) Screen-corner Convergence





3-3. FOCUS

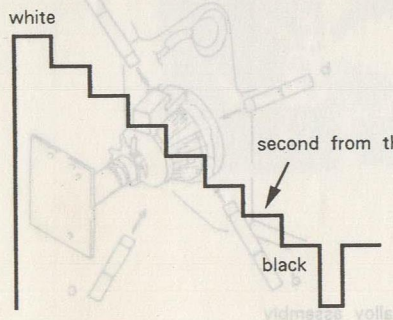
1. Tune in an off-air signal.
2. PICTURE → control to normal.
3. Adjust the focus VR on A board so that the focus at the center of the screen is optimum.
   (A magenta ring will appear if the focus is adjusted only in the center of the screen. Adjust evenly throughout the entire screen.)

3-4. G2, WHITE BALANCE ADJUSTMENTS (Using the remote commander)

1. CUT OFF (G2) ADJUSTMENT (RV701)
   1) Set the PICTURE and BRIGHT to normal.
   2) Confirm G1 voltage within 30.0 ±5 V.
   3) Apply DC voltage of 180 V to the cathodes of R, G and B from DC stabilized power source.
   4) While watching the picture, adjust the G2 volume (RV701) immediately before the fly-back line disappears.

2. WHITE BALANCE ADJUSTMENT
   1) Set to service mode.
   2) Press [VIDEO] → [RESET] to normal.
   3) Receive an entire white signal.
   4) Set the PICTURE to minimum.
   5) Select S BRT with [1] and [4], and then set the level to minimum with [3] and [6].
   6) Select G CUT and B CUT with [1] and [4], and adjust the level with [3] and [6] for the best white balance.
   7) Set the PICTURE to maximum.
   8) Select G AMP and B AMP with [1] and [4], and adjust the level with [3] and [6] for the best white balance.

3. SUB BRIGHT ADJUSTMENT
   1) Set to service mode.
   2) Receive a stairs wave of black and white from the pattern generator.
   3) BRIGHT ····· normal
      PICTURE ····· minimum
   4) Select S BRT with [1] and [4], and adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is dimly lit.



SECTION 4
SAFETY RELATED ADJUSTMENTS

⊠ R567, CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).

IC301, IC653, PM501, D539, C556, R556, R564, R567, R663, T500

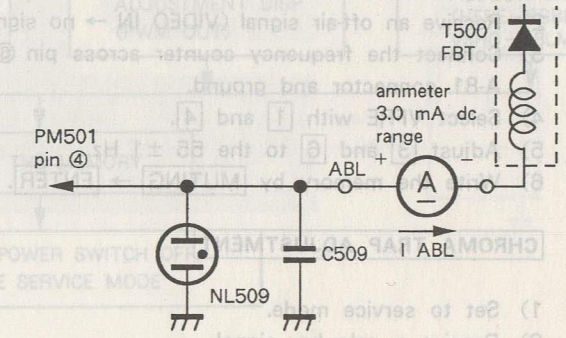
1. Preparation before confimation
   1) Turn the POWER switch ON, and receive entirely white signals and set the PICTURE and BRIGHT controls to maximum.
   2) Confirm that the voltage of the check terminal of pin ② of F-5 (F BOARD) is more than 127.0 V DC when the set is operating normally with 120.0 ±2.0 V AC supply.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1620 ±50 μA with PICTURE and BRIGHT etc controls.
   2) Apply DC voltage of over 140.0 V gradually to the check terminal of pin ② of F-5 (F BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 145.0 V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 150 ±20 μA with PICTURE and BRIGHT etc controls.
   4) Apply DC voltage of over 140.0 V gradually to the check terminal of pin ② of F-5 (F BOARD) via 1T40 from the DC stabilized power source. Confirm that the minimum voltage is less than 145.0 V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R567 (a component marked with ⊠).

⊠ R549, CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components (marked with ◪ on the schematic diagram).

IC301, PM501, R549, R564

1. Preparation before confimation
   1) Remove R663 on the F board and connect a variable resistor (RV1 : about 4.7 kΩ to 10 kΩ) between pin ① of IC653 and B+ line.
   2) Supply 120 ±2.0 V AC to with variable auto-transformer.
2. Hold-down operation confirmation
   1) Turn the POWER switch ON, and receive entirely white signals and adjust ABL current to 1620 ±50 μA with PICTURE and BRIGHT etc controls.
   2) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 142.5 V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
   3) Turn the POWER switch ON, and receive dot signals and adjust ABL current to 150 ±20 μA with PICTURE and BRIGHT etc controls.
   4) Increase B+ line voltage gradually by adjusting the resistor of RV1. Confirm that the minimum voltage is less than 144.0 V DC whereby the raster disappears during operation of hold-down circuit.
      NOTE : When the hold-down circuit starts operating, switch OFF the POWER of the set immediately.
3. Hold-down readjustment
   When step 2 is not satisfied, readjustment should be performed by altering the resistance value of R549 (a component marked with ⊠).

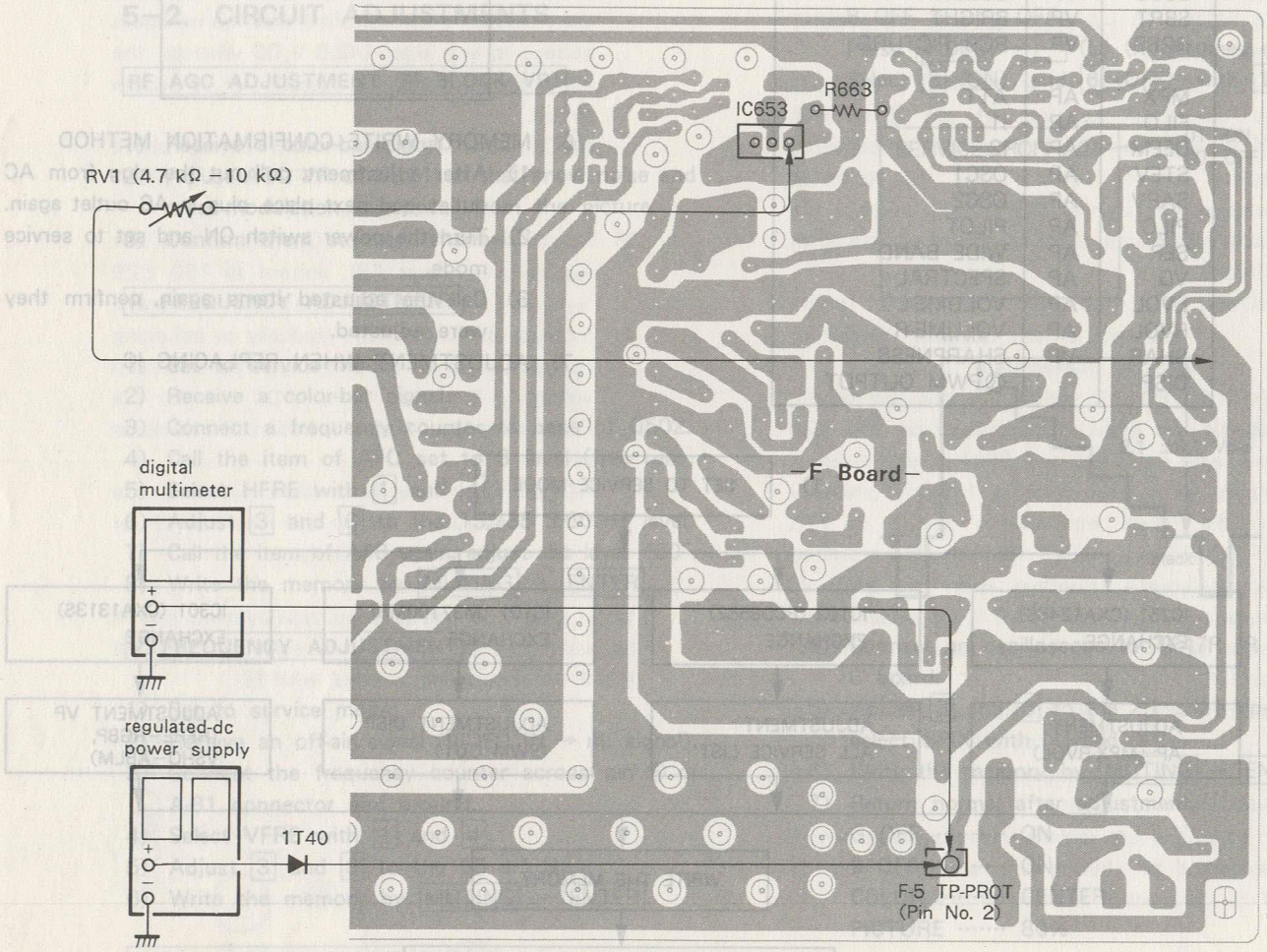


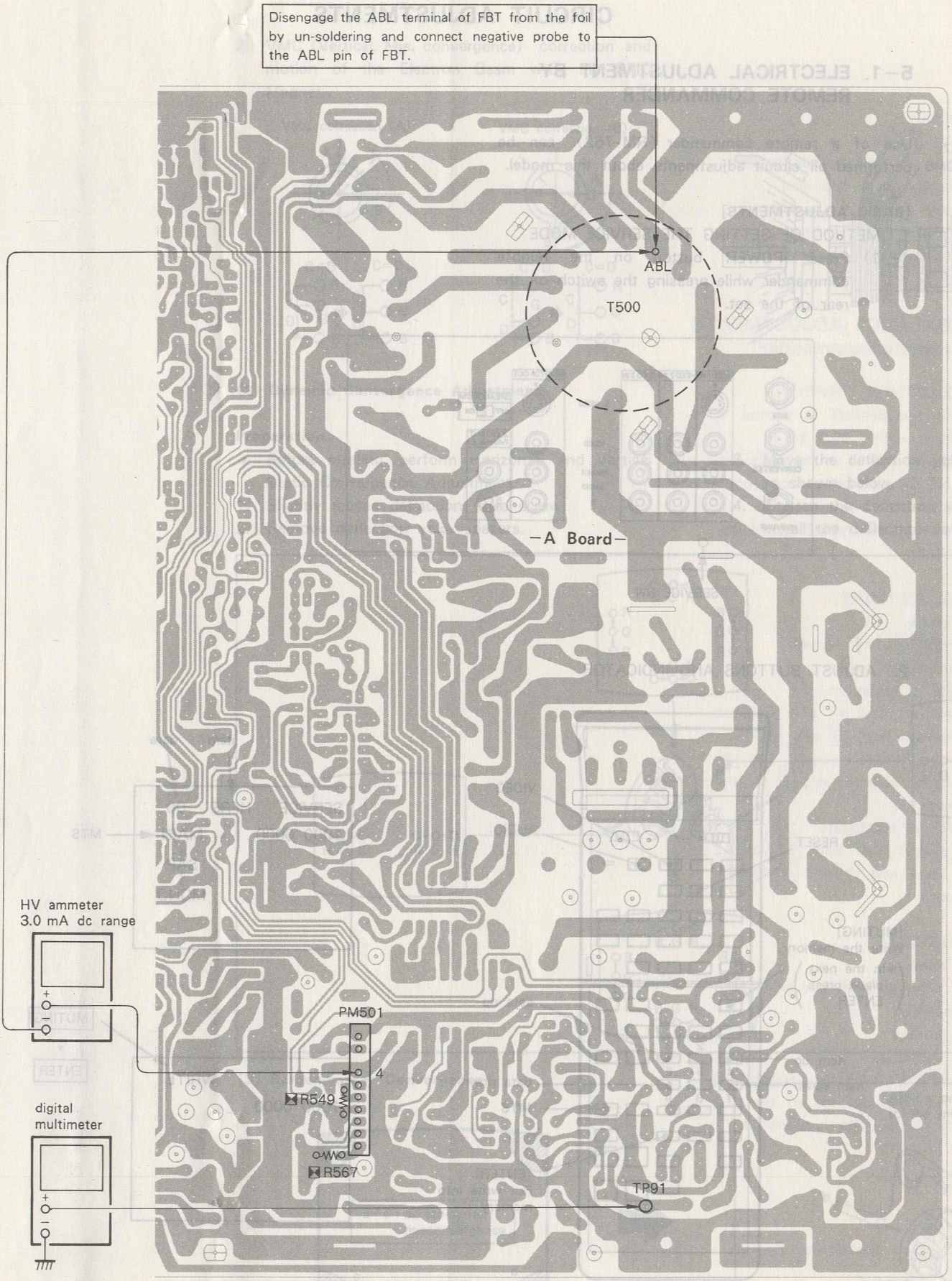
*Use a digital multimeter whose input impedance over 100 MΩ when confirming the voltage of the protector terminal.

B+ VOLTAGE CONFIRMATION

The following adjustments should always be performed when replacing IC653 and R663.

1. The B+ voltage confirmation
   1) Supply 130 $^{+1.0}_{-0}$ V AC to with variable auto-transformer.
   2) Receive entirely monoscope signals.
   3) Set the PICTURE control and the BRIGHT control into initial reset.
   4) Confirm the voltage of TP91 is less than 137.0 V DC.
   5) If step 4) is not satisfied, replace IC653 and R663 repeat above steps.




Disengage the ABL terminal of FBT from the foil by un-soldering and connect negative probe to the ABL pin of FBT.
ABL
T500
–A Board–
HV ammeter
3.0 mA dc range
PM501
4
R549
R567
digital
multimeter
TP91

SECTION 5
CIRCUIT ADJUSTMENTS

3-3. FOCU

1. Tune in ar
2. PICTURE -
3. Adjust the
   at the cen
   (A mager
   adjusted
   Adjust e

3-4. G2, V (Usin

1. CUT OFF
   1) Set th
   2) Confirn
   3) Apply
   of R, G
   4) While
   volume
   back li

2. WHITE BA
   1) Set to
   2) Press
   3) Receiv
   4) Set th
   5) Select
   the le
   6) Select
   and ac
   best v
   7) Set th
   8) Select
   and ac
   best v

3. SUB BRIG
   1) Set to
   2) Receiv
   the pa
   3) BRIGH
   PICTU
   4) Select
   BRIGH
   stripe

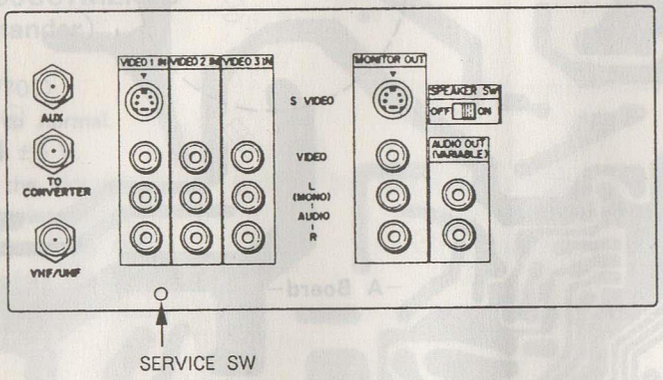
white

5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

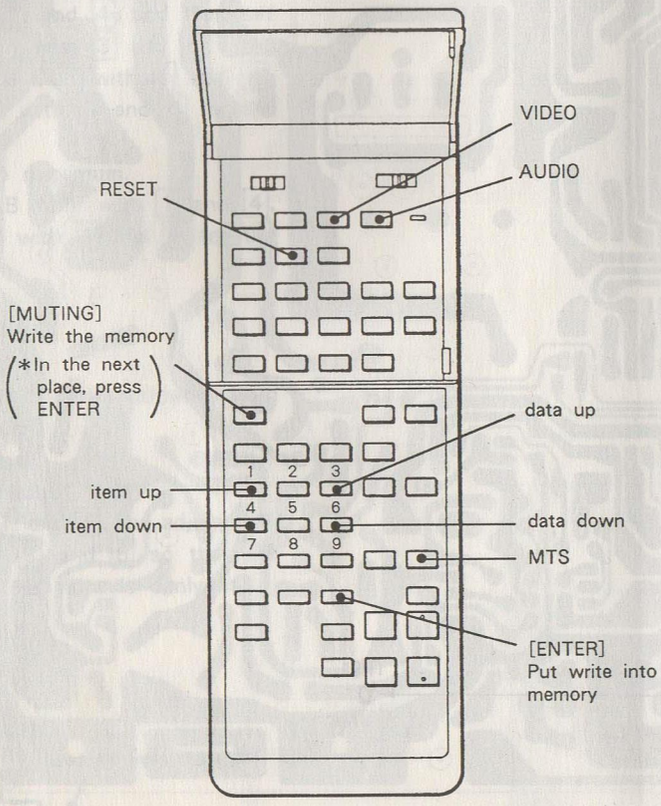
Use of a remote commander (RM-762) can be performed all circuit adjustments about this model.

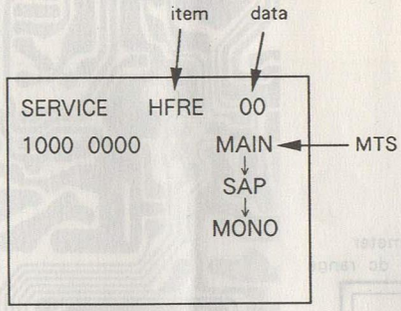
[BASIC ADJUSTMENTS]

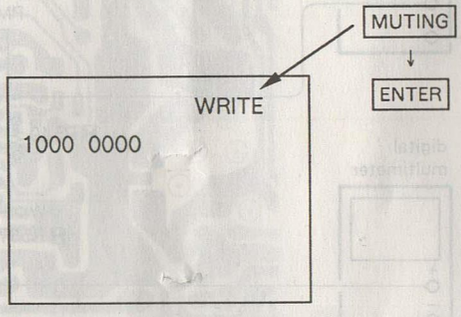
1. METHOD OF SETTING THE SERVICE MODE
   1) Press [POWER] button on the remote commander while pressing the switch on the rear of the set.



2. ADJUST BUTTONS AND INDICATOR







3. AN ITEM OF ADJUSTMENTS

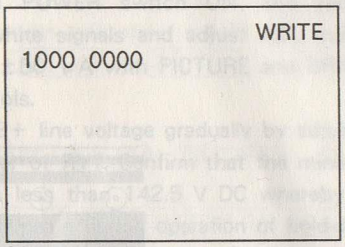
ITEM	NAME REGISTER	
HFRE	VP	H-FREQUENCY
VFRE	VP	V-FREQUENCY
VPOS	VP	V-SHIFT
VSIZ	VP	V-SIZE
VLIN	VP	V-LINEARITY
VSCO	VP	S-CORRECTION
HPOS	VP	H-PHASE
HSIZ	VP	H-SIZE
PAMP	VP	PIN AMP.
CPIN	VP	CORNER PIN
PPHA	VP	PIN PHASE
VCOM	VP	V-COMP.
GAMP	VP	GREEN AMP.
BAMP	VP	BLUE AMP.
GCUT	VP	GREEN CUTOFF
BCUT	VP	BLUE CUTOFF
CROM	VP	CHROMA TRAP
SPIX	VP	PICTURE
SHUE	VP	HUE
SCOL	VP	COLOR
SBRT	VP	BRIGHT
RGBP	VP	RGB PICTURE
MPX	AP	ATT
FILO	AP	I1
DEEM	AP	I2
STEV	AP	OSC1
SAPV	AP	OSC2
PILO	AP	PILOT
SEP	AP	WIDE BAND
VD	AP	SPECTRAL
LVOL	AP	VOLUME-L
RVOL	AP	VOLUME-R
SHAR	VP	SHARPNESS
DISP		③PWM OUTPUT

4. METHOD OF CANCELLATION FROM SERVICE MODE

Set to standby condition (Press [POWER] button on the commander). In the next place, press [POWER] button again, hereupon it becomes TV mode.

5. METHOD OF WRITE FOR MEMORY

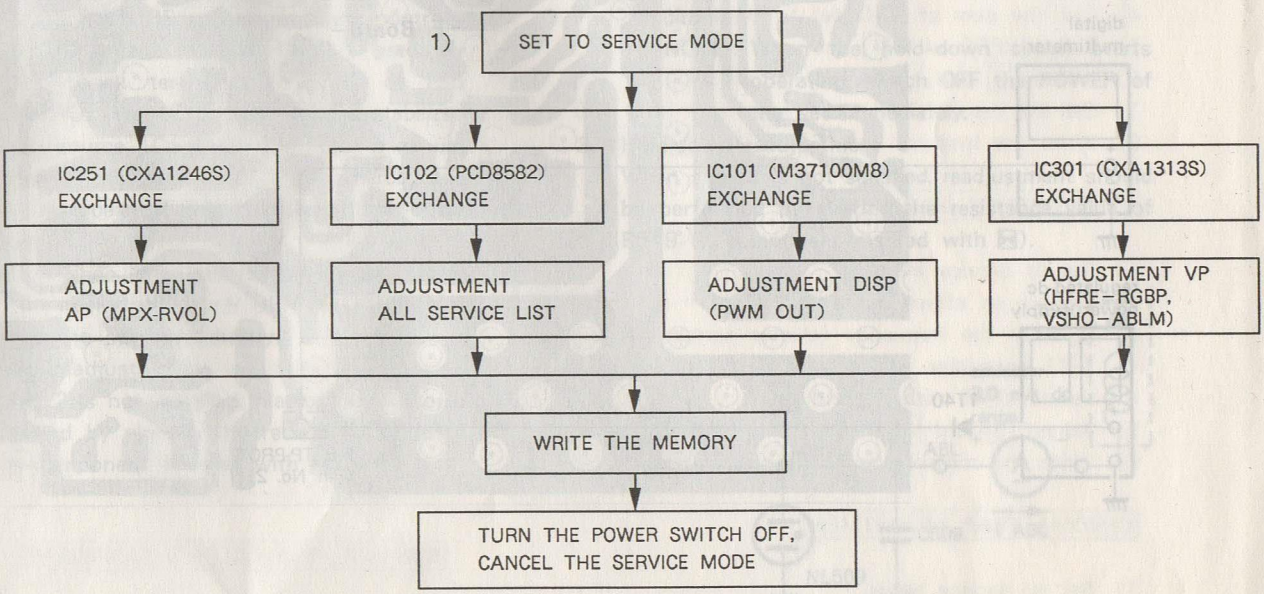
1) Set to service mode.
2) Press [1] (UP) and [4] (DOWN), select an item of adjustments.
3) Press [MUTING] button to indicate WRITE (RED) on screen.
4) Press [ENTER] button to write for memory. (At this time, WRITE (YELLOW) is indicated on screen.)



6. MEMORY WRITE CONFIRMATION METHOD

1) After adjustment, pull out the plug from AC outlet, and next place, plug in AC outlet again.
2) Turn the power switch ON and set to service mode.
3) Call the adjusted items again, confirm they were adjusted.

7. ADJUSTMENT WHEN REPLACING IC



NOTE : If service mode is canceled before write for memory, the adjustment data is not recorded. Please write for memory certainly after adjustment.

2) The following first setting should always be performed when replacing the IC102 (PCD8582).

ITEM	NAME REGISTER		ADJUSTMENT
VSMO	VP	VSMO	0
AFC	VP	AFC 1.0	0
REF	VP	REF 1.0	2
ROFF	VP	OFF NR	1
GOFF	VP	OFF NG	1
BOFF	VP	OFF NB	1
ABLM	VP	ABLM	1
TEST	AP	T	0
DRGB	VP	DRGB	1

* Please write the memory each items by [MUTING] → [ENTER].

5-2. CIRCUIT ADJUSTMENTS

RF AGC ADJUSTMENT (IF BLOCK VR)

1) Receive a color-bar signal.
2) Adjust AGC VR of IF201 so that snow noise and cross-modulation disappear from the picture.
3) Confirm them at every channel.

H. FREQUENCY ADJUSTMENT

1) Set to service mode.
2) Receive a color-bar signal.
3) Connect a frequency counter to base of Q502.
4) Call the item of AFC, set to 3 level (free run).
5) Select HFRE with [1] and [4].
6) Adjust [3] and [6] to the 15,735 ±60 Hz level.
7) Call the item of AFC again, adjust the level "00".
8) Write the memory by [MUTING] → [ENTER].

V. FREQUENCY ADJUSTMENT

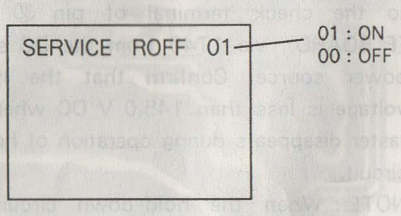
1) Set to service mode.
2) Receive an off-air signal (VIDEO IN → no signal).
3) Connect the frequency counter across pin ⑥ of A-81 connector and ground.
4) Select VFRE with [1] and [4].
5) Adjust [3] and [6] to the 55 ±1 Hz.
6) Write the memory by [MUTING] → [ENTER].

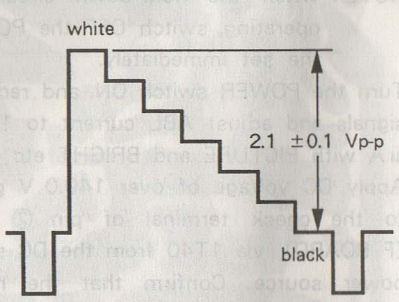
CHROMA TRAP ADJUSTMENT

1) Set to service mode.
2) Receive a color-bar signal.
3) Select NOTCH (VIDEO condition), turn "ON" by [+]. And then set the COLOR VR to maximum setting and SHARPNESS control to center.
4) Connect an oscilloscope to TP47R (R OUT) on C board.
5) Select C ROM with [1] and [4], and then adjust 3.58 MHz (CHROMA) ingredient is minimum with [3] and [6].
6) Write the memory by [MUTING] → [ENTER].
7) Set NOTCH to OFF, and make normal condition with [VIDEO] → [RESET].

SUB CONTRAST ADJUSTMENT

1) Set to service mode.
2) Receive a color-bar signal. (75 IRE)
3) PICTURE ····· MAX
   COLOR ····· MIN
   R OFF ····· ON
   G OFF ····· OFF
   B OFF ····· OFF
   Press [VIDEO] → [−] (L) (It becomes minimum).
   Select [3] (ON) and [6] (OFF) with [1] and [4].



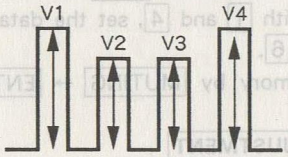


4) Connect an oscilloscope to TP47R (R OUT) on C board.
5) Adjust [3] and [6] to the 2.1 ±0.1 Vp-p level by select SPIX with [1] and [4].
6) Write the memory by [MUTING] → [ENTER].
7) Return normal after adjustment.
   G OFF ····· ON
   B OFF ····· ON
   COLOR ····· CENTER
   PICTURE ····· 80%

SUB HUE, SUB COLOR ADJUSTMENT

1) Receive a color-bar signal.
2) Press [VIDEO] → [RESET] to normal.

3) Set to service mode.
4) Connect an oscilloscope TP47B (B OUT) on C board.
5) Adjust [3] and [4] to the V1=V4 and V2=V3 by select to SHUE and SCOL with [1] and [4].



6) Write the memory by [MUTING] → [ENTER].

V. SIZE ADJUSTMENT

1) Set to service mode.
2) Receive a cross-hatch signal.
3) Adjust [3] and [6] to the best vertical size by select to VSIZ with [1] and [4].
4) Write the memory by [MUTING] → [ENTER].

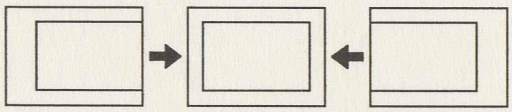
H. SIZE ADJUSTMENT

1) Receive a cross-hatch signal.
2) Press [VIDEO] → [RESET] to normal.
3) Set to service mode.
4) Adjust [3] and [6] to the best horizontal size by select to HSIZ with [1] and [4].
5) Write the memory by [MUTING] → [ENTER].

H. CENTER ADJUSTMENT

Note : Perform this adjustment after H. FREQ adjustment.

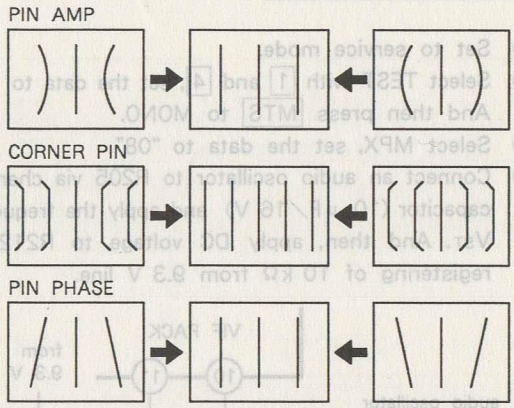
1) Receive a cross-hatch signal.
2) Press [VIDEO] → [RESET] to normal.
3) Set to service mode.
4) Select HPOS with [1] and [4].
5) Adjust [3] and [6] to the best picture.



6) Write the memory by [MUTING] → [ENTER].

PIN AMP, CORNER PIN AND PIN PHASE ADJUSTMENT

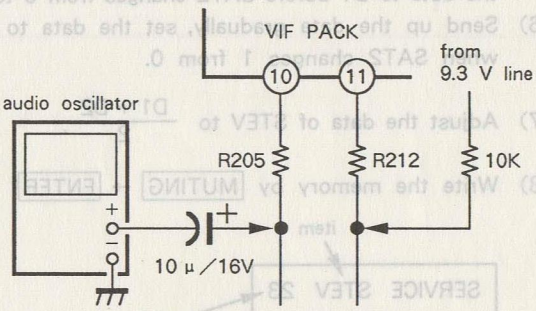
1) Receive a cross-hatch signal.
2) Press [VIDEO] → [RESET] to normal.
3) Set to service mode.
4) Select PAMP, CPIN and PPHA with [1] and [4].
5) Adjust [3] and [6] to the best picture.



6) Write the memory by [MUTING] → [ENTER].

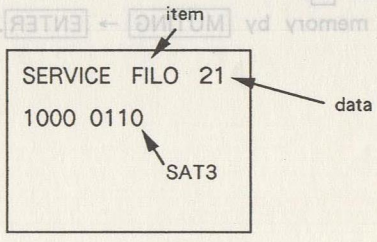
FILTER ADJUSTMENT

1) Set to service mode.
2) Select to TEST with [1] and [4], set the data to "1". Then select MPX and make data to "08".
3) Connect an audio oscillator to R205 via chemical capacitor (10 µF/16 V) and apply frequency of V_{4fH}. And then, via the 10 kΩ resistor, feed 9.3 V into the R212.



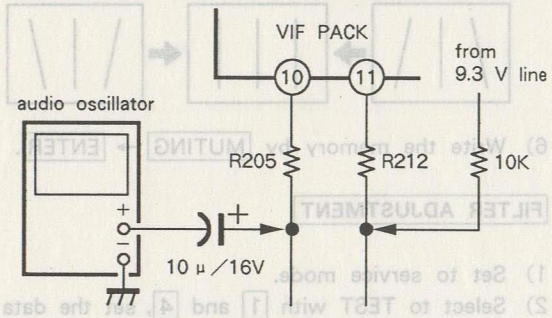
V_{4fH} : SINE-WAVE 62.936 kHz
LEVEL 3.0 Vp-p

4) Make the data "00" by selecting FILO with [1] and [4]. And then, send up the data gradually by pressing of [6]. Set the data to D1 before SAT3 changing to 1 from 0.
5) Send up the data gradually. Set the data to D2 when SAT3 changes 0 from 1.
6) Adjust the data of FILO to $\frac{D1 + D2}{2}$.
7) Write the memory by [MUTING] → [ENTER].



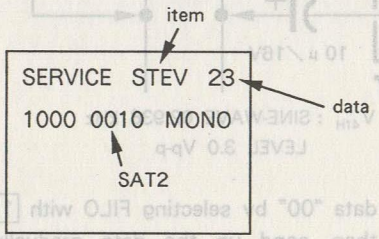
ST VCO ADJUSTMENT

1) Set to service mode.
2) Select TEST with [1] and [4], set the data to "1". And then press [MTS] to MONO.
3) Select MPX, set the data to "08".
4) Connect an audio oscillator to R205 via chemical capacitor (10 µF/16 V) and apply the frequency V_{ST}. And then, apply DC voltage to R212 by registering of 10 kΩ from 9.3 V line.



V_{ST}: SINE-WAVE 15.734 kHz
LEVEL 0.28 Vp-p

5) Select STEV with [1] and [4], set the data to "00" with [6]. And then, send up the data gradually. Set the data to D1 before SAT2 changes from 0 to 1.
6) Send up the data gradually, set the data to D2 when SAT2 changes 1 from 0.
7) Adjust the data of STEV to $\frac{D1 + D2}{2}$.
8) Write the memory by [MUTING] → [ENTER].



MPX IN LEVEL ADJUSTMENT

1) Set to service mode.
2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press [MTS] to MONO.
3) Select MPX with [1] and [4], set the data to "08" with [3] and [6].
4) Write the memory by [MUTING] → [ENTER].

PILOT CANCEL ADJUSTMENT

1) Set to service mode.
2) Select TEST with [1] and [4], set the data to "0" with [6]. And then press [MTS] to MAIN.
3) Select PILO with [1] and [4], set the data to "08" with [3] and [6].
4) Write the memory by [MUTING] → [ENTER].

SAP VCO f_0 ADJUSTMENT

1) Set to service mode.
2) Receive a stereo broadcast with SAP.
3) Select TEST with [1] and [4], set to the data to "0". And then, press [MTS] to MAIN.
4) Connect a digital multimeter to pin ① of A-23 connector. This voltage reading will equal V1.
5) Press [MTS] to SAP and this voltage will equal V2.
6) Select SAPV with [1] and [4], adjust [3] and [6] so that V2=V1 ±0.03 V DC.
7) Write the memory by [MUTING] → [ENTER].

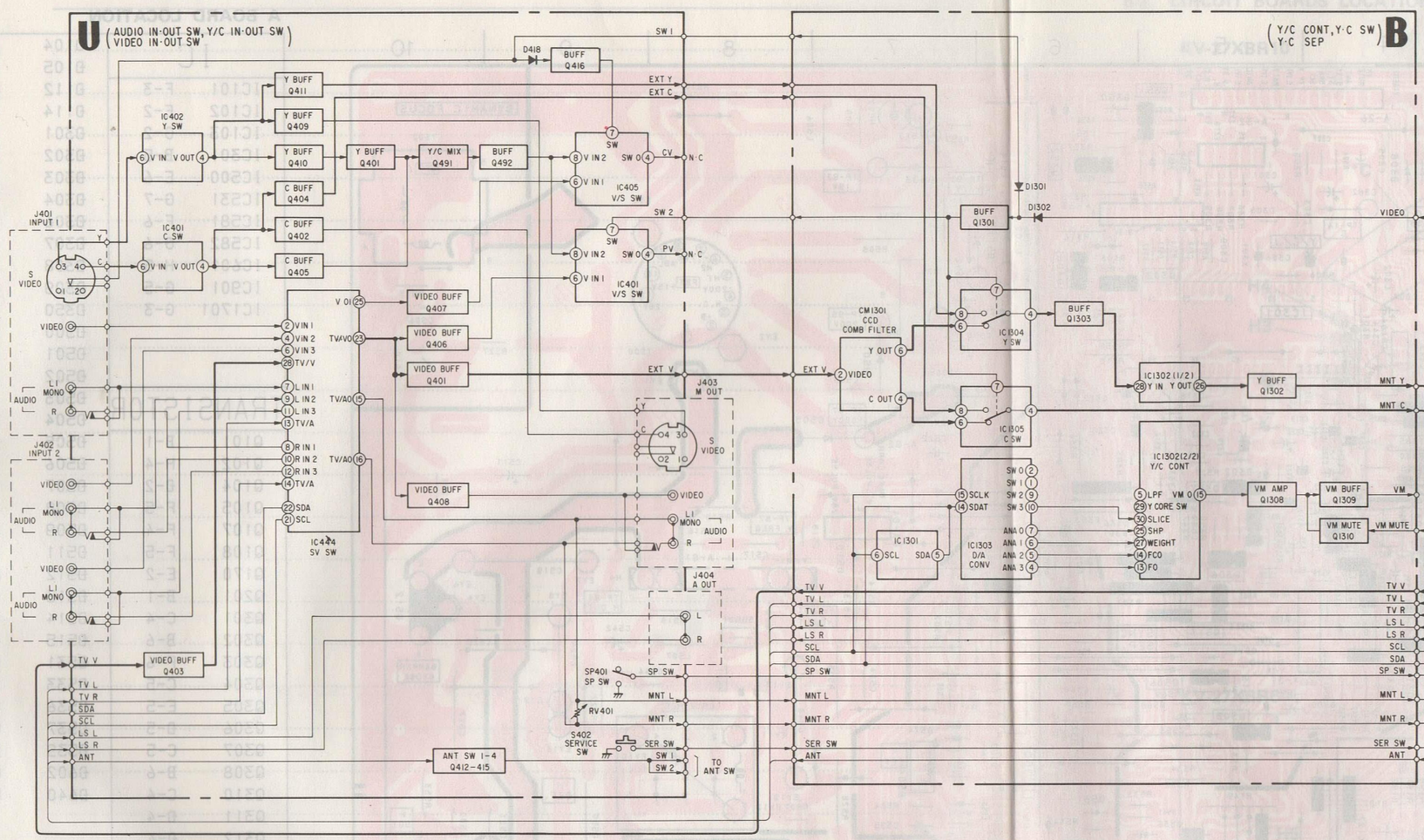
SEPARATION ADJUSTMENT

1) Set to service mode.
2) Press [MTS] to MAIN, and receive a mono-ral broadcast.
   In the next step, receive a stereo broadcast.
3) Select SEP and VD with [1] and [4], adjust [3] and [6] so that a clear stereo sound is effected.

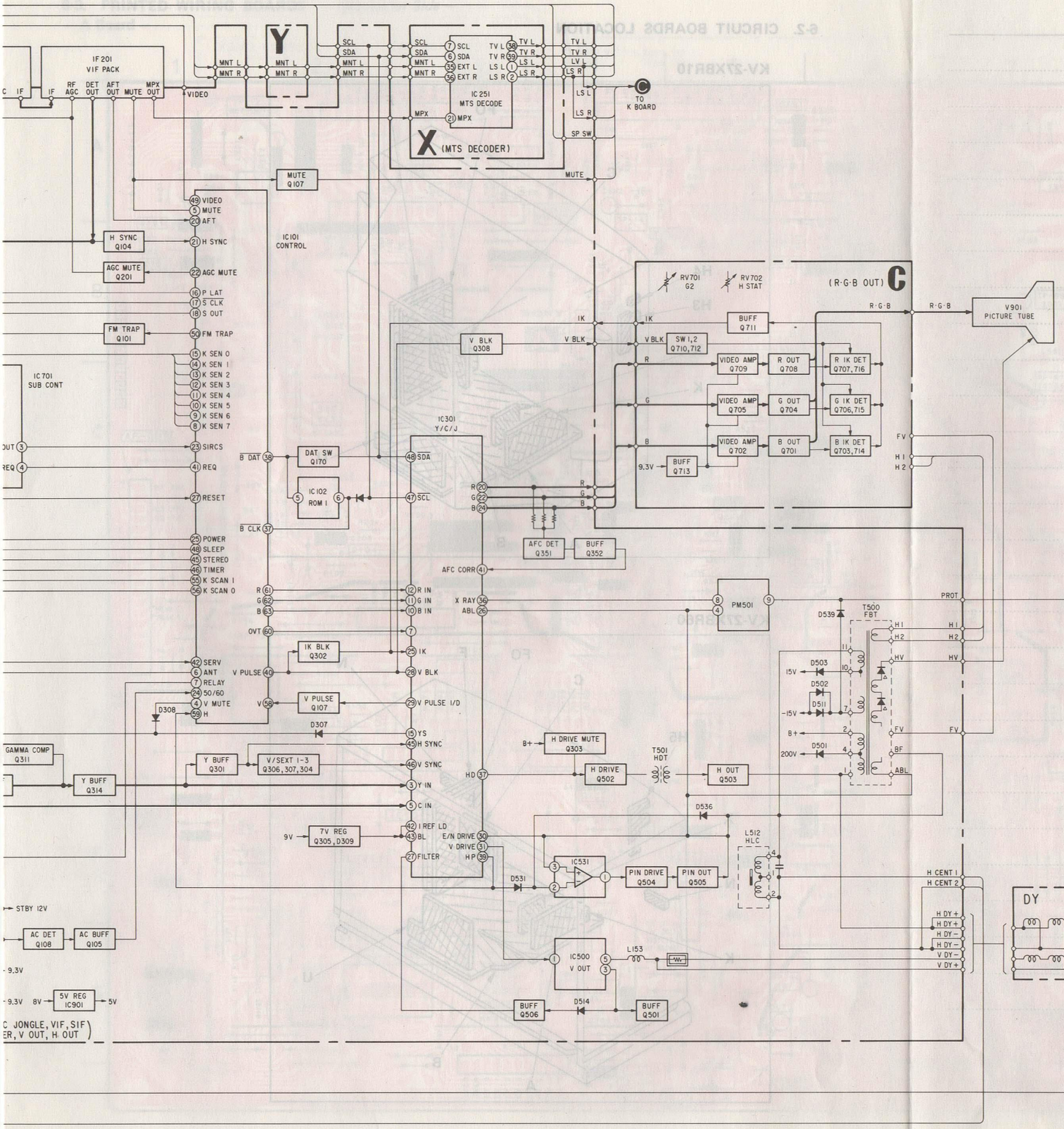
KV-27XBR10/27XBR60 RM-762

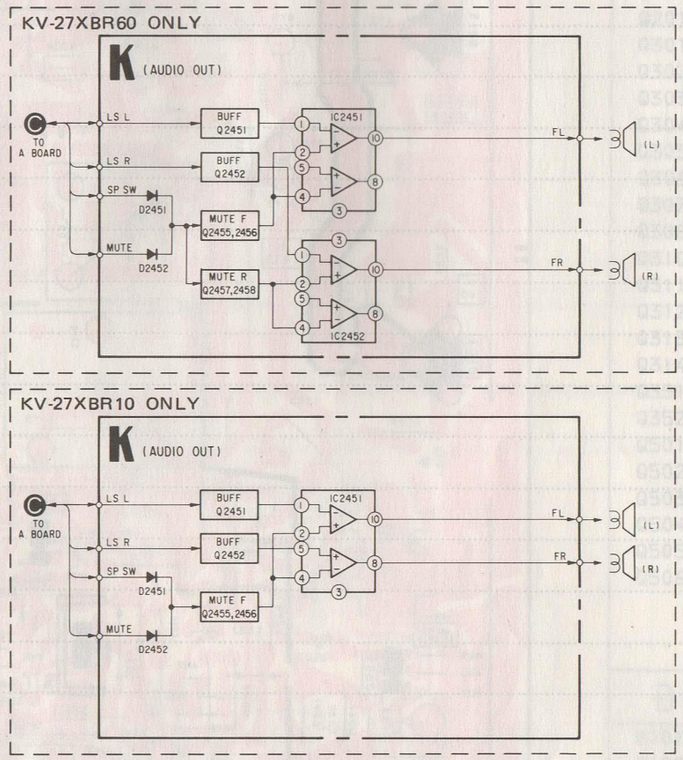
SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



KV-27XBR10/27XBR60 RM-762

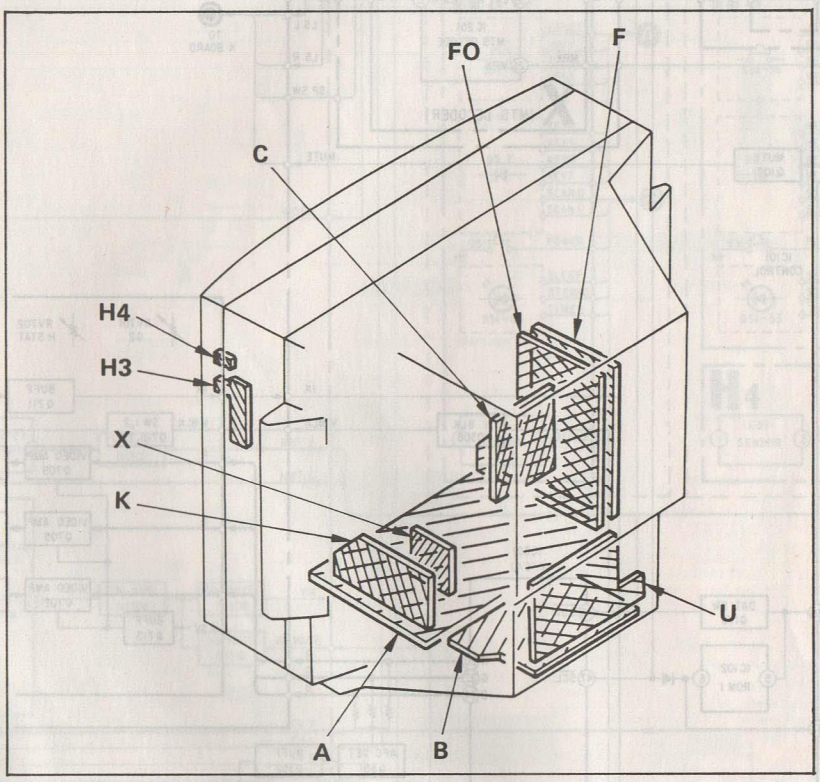




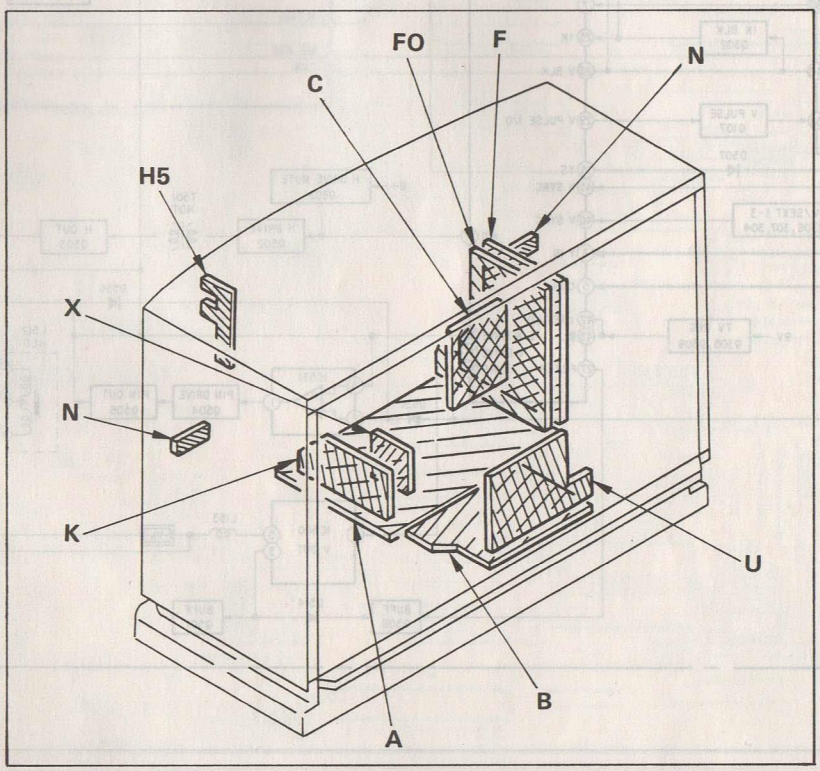
MEMO

6-2. CIRCUIT BOARDS LOCATION

KV-27XBR10



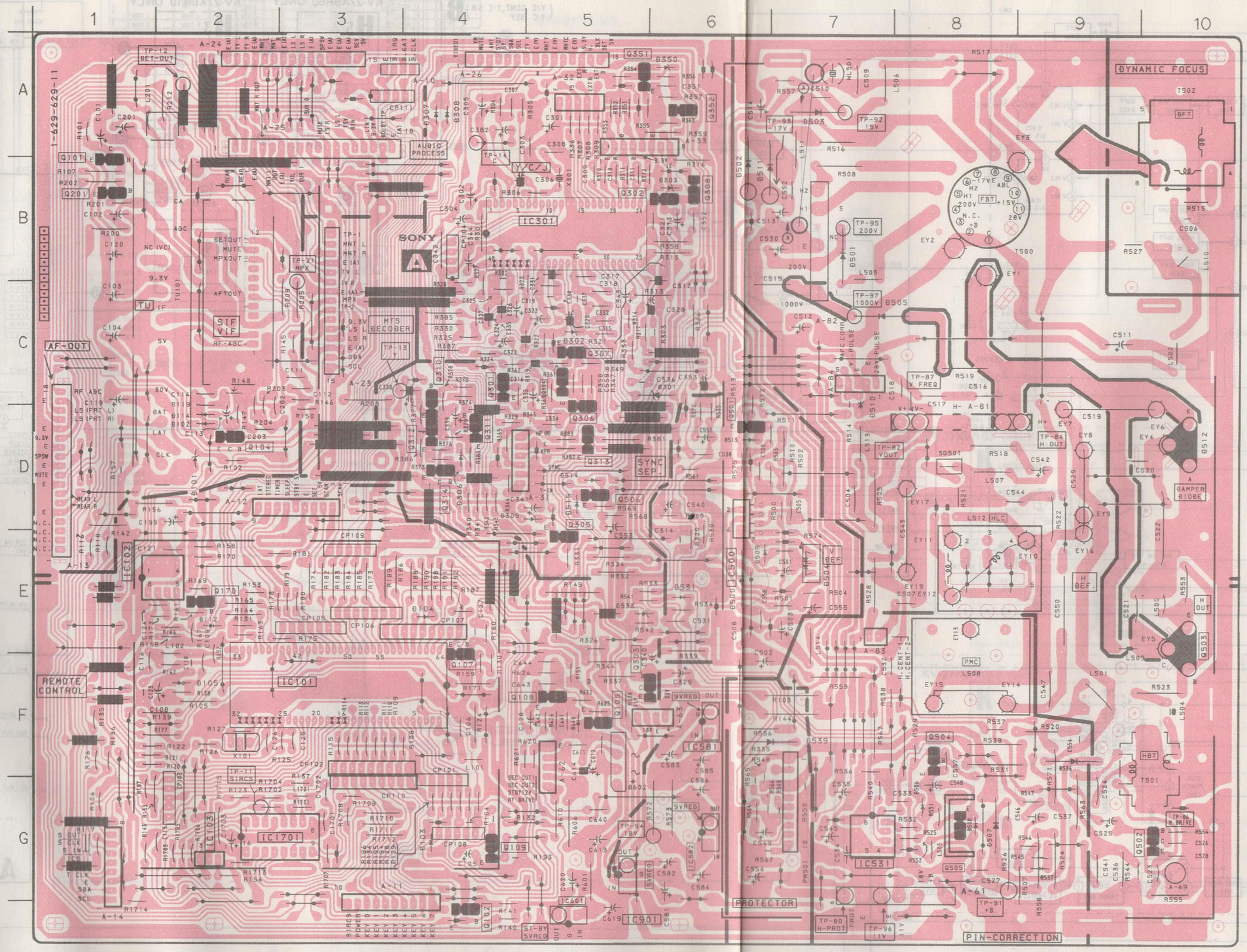
KV-27XBR60



KV-27XBR10/27XBR60
RM-762

6-3. PRINTED WIRING BOARDS — *Conductor Side* —

— A Board —



A BOARD LOCATION

IC			
IC101	F-3	Đ104	E-4
IC102	E-2	Đ105	F-2
IC103	G-2	Đ112	E-2
IC301	B-5	Đ114	Đ-2
IC500	E-6	Đ301	C-6
IC531	G-7	Đ302	C-5
IC581	F-6	Đ303	B-6
IC582	G-6	Đ304	C-6
IC601	H-5	Đ306	Đ-4
IC901	G-5	Đ307	A-4
IC1701	G-3	Đ308	A-4
		Đ309	Đ-5
		Đ350	A-6
		Đ500	E-6
		Đ501	B-7
		Đ502	B-6
		Đ503	A-7
TRANSISTOR		Đ504	E-7
Q101	B-1	Đ505	C-7
Q102	H-4	Đ506	G-8
Q104	Đ-2	Đ507	G-8
Q105	F-5	Đ508	G-8
Q107	F-4	Đ509	E-7
Q108	F-5	Đ511	B-7
Q170	E-2	Đ512	Đ-10
Q201	B-1	Đ513	Đ-6
Q301	C-4	Đ514	Đ-5
Q302	B-6	Đ515	Đ-5
Q303	F-6	Đ531	E-6
Q304	C-5	Đ533	E-6
Q305	E-5	Đ536	F-9
Q306	Đ-5	Đ537	G-9
Q307	C-5	Đ539	F-7
Q308	B-6	Đ602	G-5
Q310	C-4	Đ640	F-5
Q311	Đ-4		
Q312	Đ-4		
Q313	Đ-5		
Q314	Đ-4		
Q351	A-6		
Q352	A-6		
Q501	Đ-6		
Q502	G-10		
Q503	F-10		
Q504	F-8		
Q505	G-8		
Q506	Đ-5		
ĐIOĐE			
Đ101	Đ-2		
Đ102	Đ-2		
Đ103	G-4		

6-4. SCHEMATIC DIAGRAMS

Note :

- All capacitors are in µF unless otherwise noted.
  pF : µµF 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power 1/4W

- All resistors are in ohms.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ▭ : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ⊠ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⊠ and repeat the adjustment until the specified value is achieved.
- When replacing the part in below table be sure to perform the related adjustment.

Part replaced (◪)	Adjustment (⊠)
IC301, PM501, R549, R564	R549 (HOLD-DOWN)
IC301, IC653, PM501, D539, C556, R556, R564, R567, R663, T500	R567 (HOLD-DOWN)

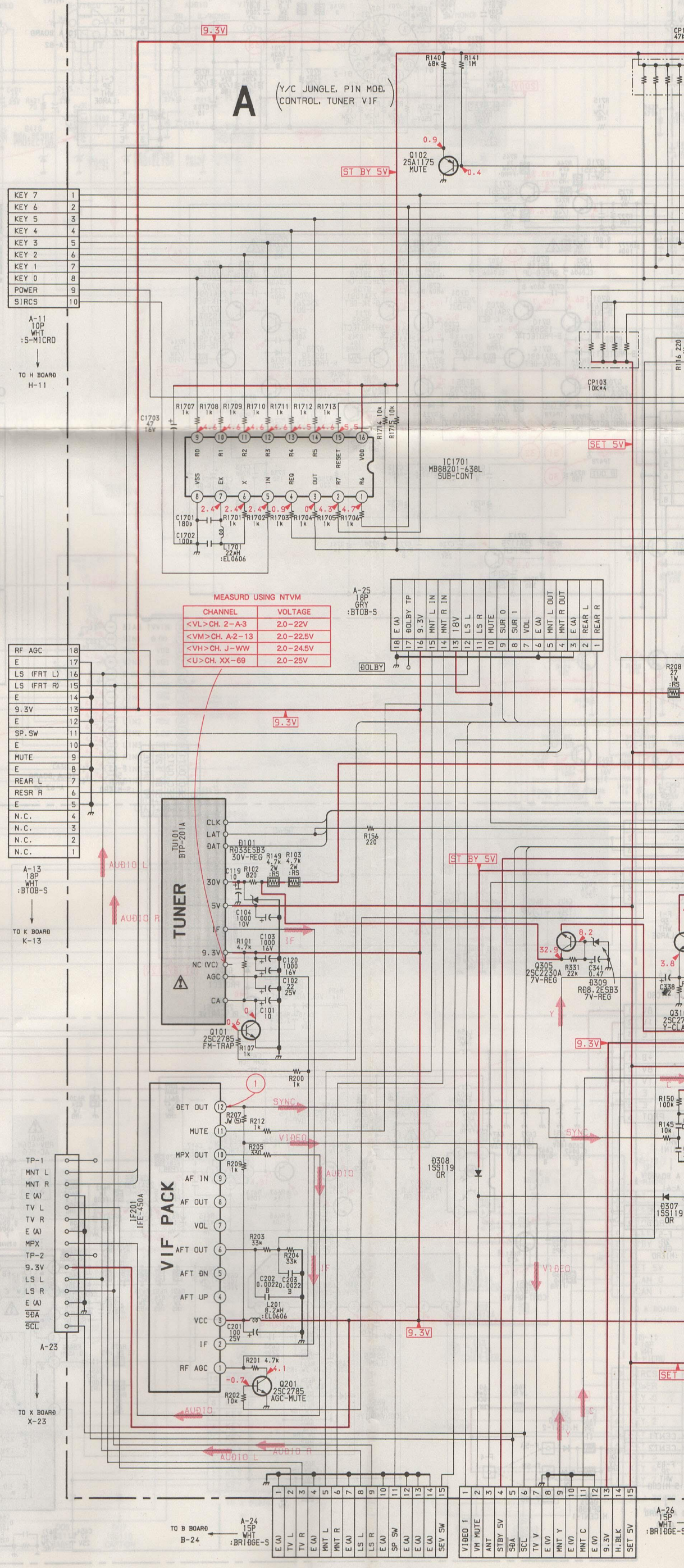
- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a 10 MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- ▬▬ : B+ bus.
- ▬ ▬ : B− bus.
- ▒▒▒▶ : signal path.

Reference information

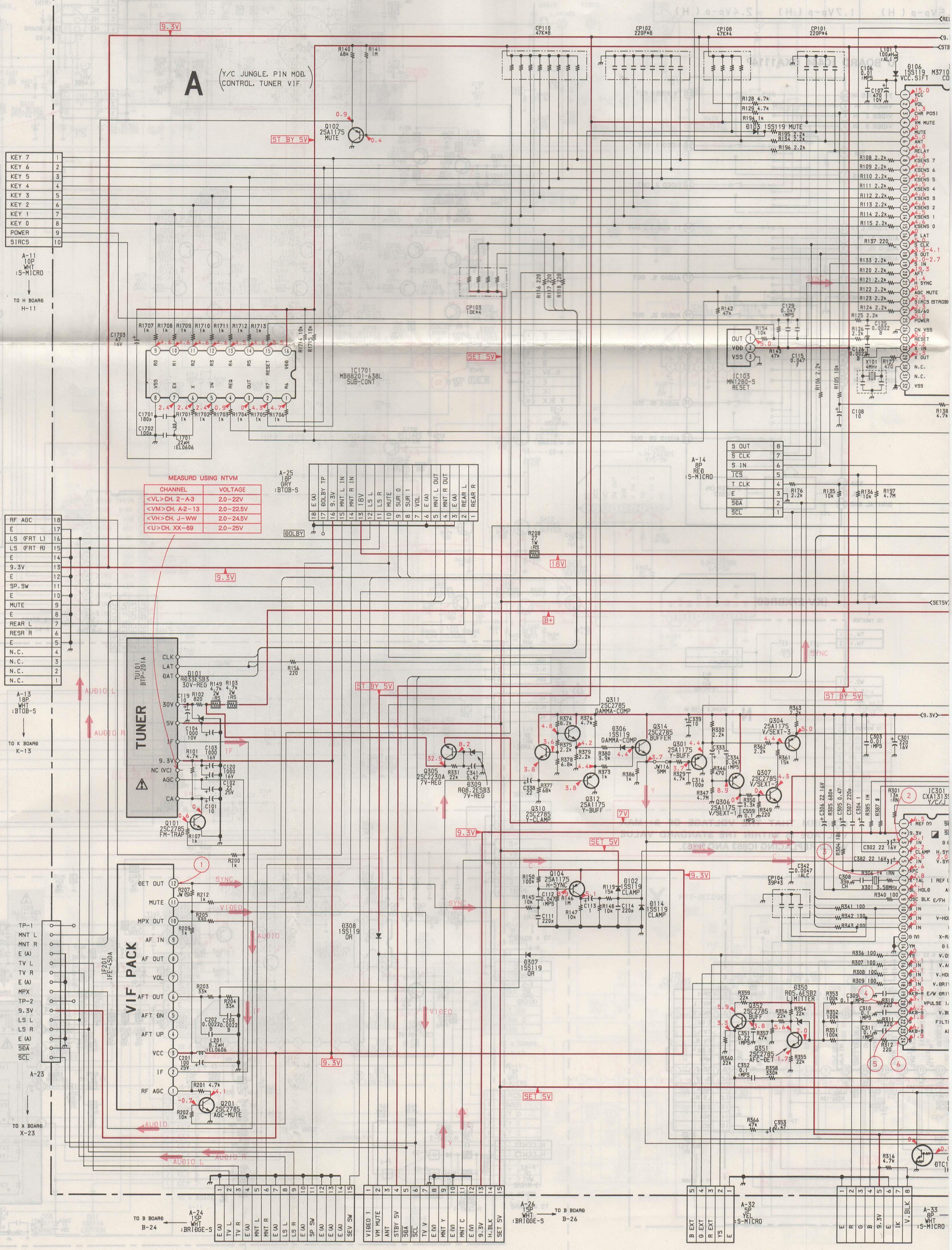
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

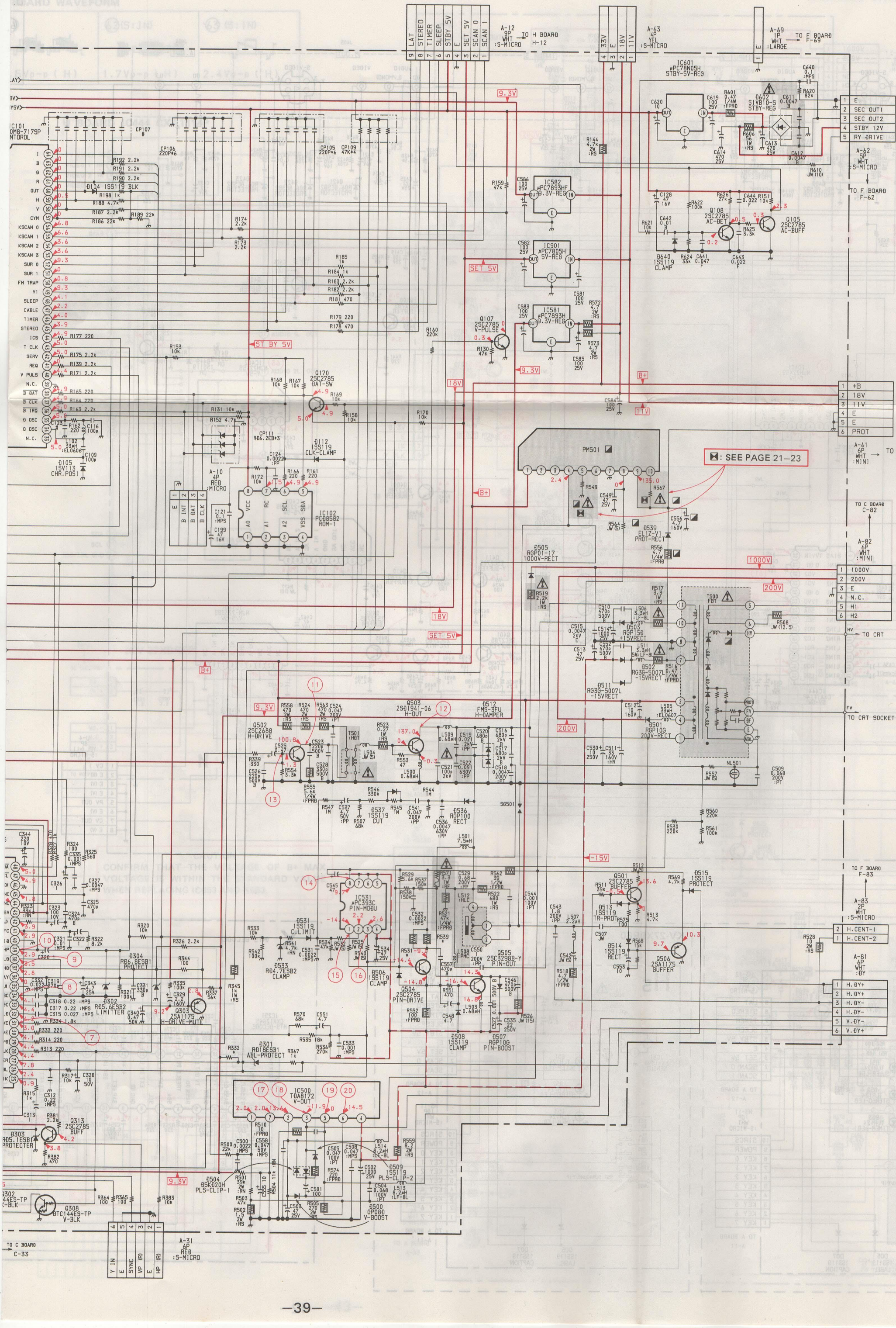
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

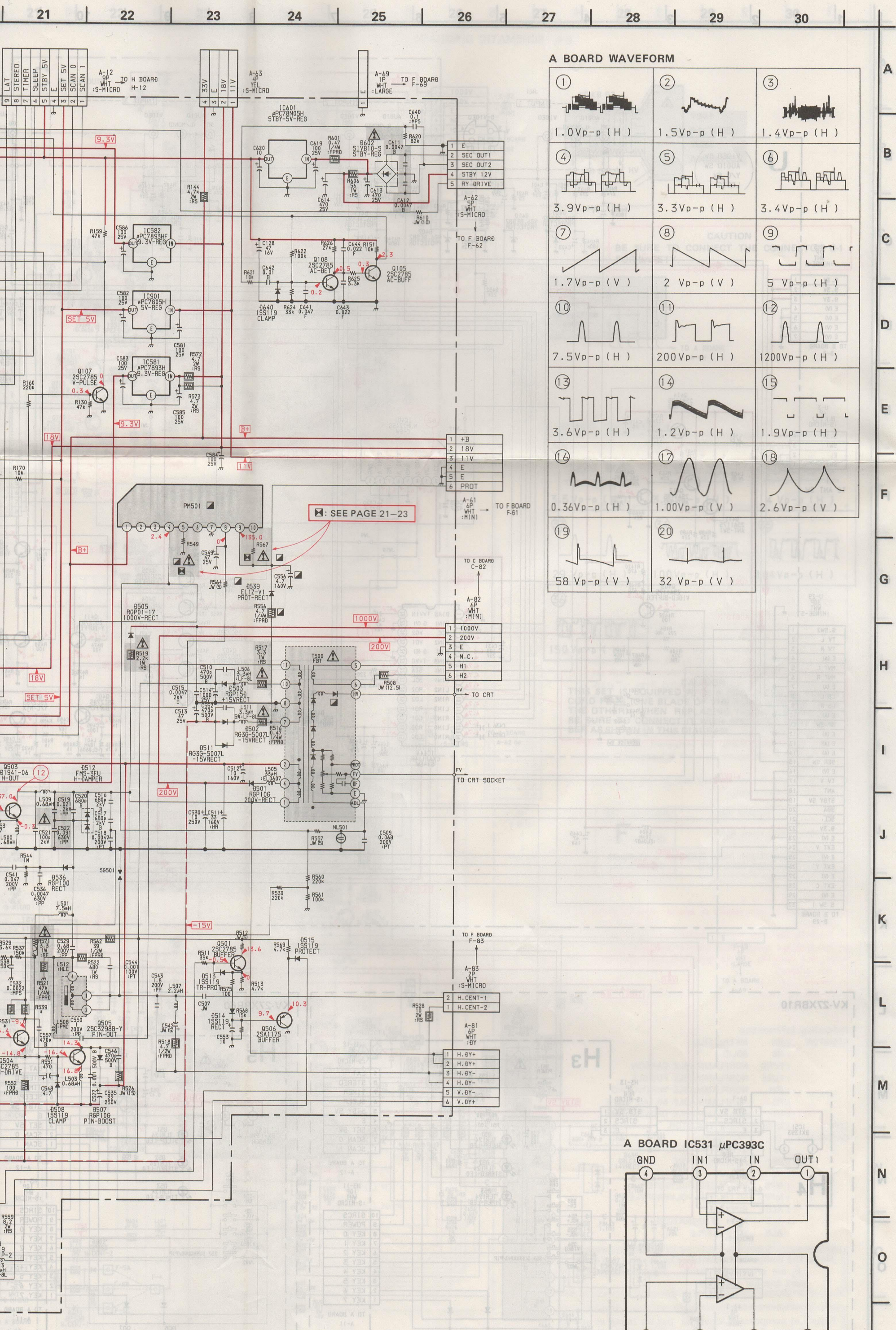
Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.



6-4. SCHEMATIC DIAGRAMS



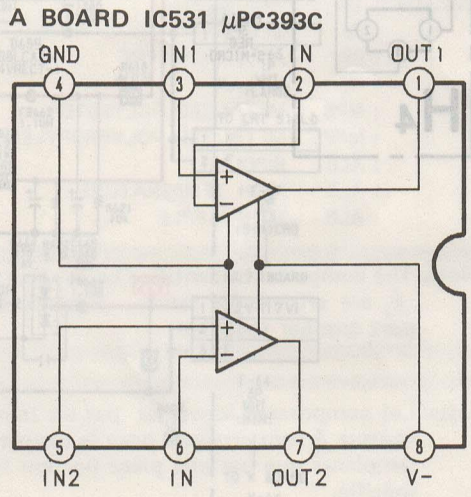

A-12 9P WHT :S-MICRO TO H BOARD H-12
LAT
STEREO
TIMER
SLEEP
STBY 5V
E
SET 5V
SCAN 0
SCAN 1
A-63 4P YEL :S-MICRO
33V
E
18V
11V
A-69 1P WHT :LARGE TO F BOARD F-69
IC601 μPC78N05H STBY-5V-REG
D602 SIVB10-S STBY-REG
A-62 5P WHT :S-MICRO
TO F BOARD F-62
1 E
2 SEC OUT1
3 SEC OUT2
4 STBY 12V
5 RY DRIVE
9.3V
SET 5V
ST BY 5V
18V
11V
B+
1000V
200V
-15V
IC582 μPC7893HF 9.3V-REG
IC901 μPC7805H 5V-REG
IC581 μPC7893H 9.3V-REG
Q107 2SC2785 V-PULSE
Q108 2SC2785 AC-DET
Q105 2SC2785 AC-BUFF
D640 1SS119 CLAMP
Q170 2SC2785 DAT-SW
D112 1SS119 CLK-CLAMP
CP111 RD6.2EB*3
A-10 4P RED :MICRO
IC102 PC08582 ROM-1
PM501
: SEE PAGE 21–23
A-61 6P WHT :MINI TO F BOARD F-61
1 +B
2 18V
3 11V
4 E
5 E
6 PROT
TO C BOARD C-82
A-82 6P WHT :MINI
1 1000V
2 200V
3 E
4 N.C.
5 H1
6 H2
HV TO CRT
FV TO CRT SOCKET
D539 EL1Z-V1 PROT-RECT
D505 RGP01-17 1000V-RECT
D501 RGP10G 200V-RECT
D502 RG3G-5007L -15VRECT
D503 RGP15D +15VRECT
D511 RG3G-5007L -15VRECT
T500 FBT
Q503 2SD1941-06 H-OUT
D512 FMS-3FU H-DAMPER
Q502 2SC2688 H-DRIVE
T501 :HOT
NL501
SG501
IC531 μPC393C PIN-MOBU
D531 1SS119 C.LIMIT
D533 RD4.7ESB2 CLAMP
D304 RD6.8ESB1 PROTECT
D302 RD5.6ESB2 LIMITTER
Q303 2SA1175 H-DRIVE-MUTE
D301 RD18ESB1 ABL-PROTECT
Q313 2SC2785 BUFF
D303 RD5.1ESB1 PROTECTER
Q308 DTC144ES-TP V-BLK
Q302 144ES-TP -BLK
D504 D5K020H PLS-CLIP-1
D509 1SS119 PLS-CLIP-2
D500 GP08D V-BOOST
IC500 TDA8172 V-OUT
D508 1SS119 CLAMP
D507 RGP10G PIN-BOOST
Q504 2SC2785 PIN-DRIVE
Q505 2SC3298B-Y PIN-OUT
D506 1SS119 CLAMP
D536 RGP100 RECT
D537 1SS119 CUT
D513 1SS119 TR-PROT
D514 1SS119 RECT
D515 1SS119 PROTECT
Q501 2SC2785 BUFFER
Q506 2SA1175 BUFFER
TO C BOARD C-33
A-31 6P RED :S-MICRO
Y IN
E
SYNC
VP (R)
E (R)
HP (R)
A-83 2P WHT :S-MICRO TO F BOARD F-83
H.CENT-1
H.CENT-2
A-81 6P WHT :DY
H.DY+
H.DY+
H.DY-
H.DY-
V.DY-
V.DY+
A BOA
1.0V
3.9V
1.7V
7.5V
3.6V
0.36V
58 V

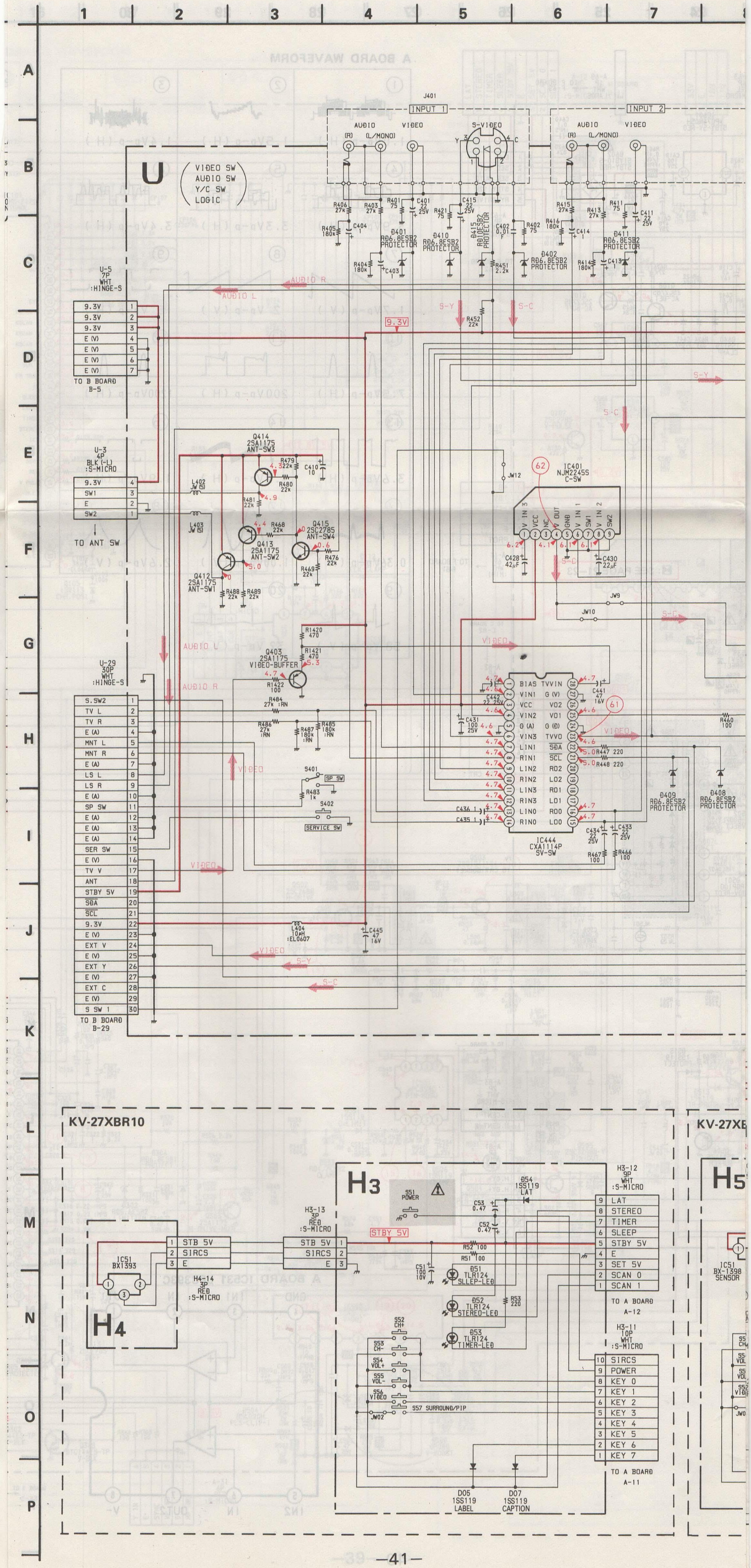


A BOARD WAVEFORM

① 1.0Vp-p (H)	② 1.5Vp-p (H)	③ 1.4Vp-p (H)
④ 3.9Vp-p (H)	⑤ 3.3Vp-p (H)	⑥ 3.4Vp-p (H)
⑦ 1.7Vp-p (V)	⑧ 2 Vp-p (V)	⑨ 5 Vp-p (H)
⑩ 7.5Vp-p (H)	⑪ 200Vp-p (H)	⑫ 1200Vp-p (H)
⑬ 3.6Vp-p (H)	⑭ 1.2Vp-p (H)	⑮ 1.9Vp-p (H)
⑯ 0.36Vp-p (H)	⑰ 1.00Vp-p (V)	⑱ 2.6Vp-p (V)
⑲ 58 Vp-p (V)	⑳ 32 Vp-p (V)	

A BOARD IC531 μPC393C




J401
INPUT 1
INPUT 2
AUDIO
VIDEO
S-VIDEO
(R)
(L/MONO)
U
VIDEO SW
AUDIO SW
Y/C SW
LOGIC
D401 RD6.8ESB2 PROTECTOR
D402 RD6.8ESB2 PROTECTOR
D410 RD6.8ESB2 PROTECTOR
D411 RD6.8ESB2 PROTECTOR
D415 RD10ESB2 PROTECTOR
U-5 7P WHT :HINGE-S
9.3V
E (V)
TO B BOARD B-5
AUDIO R
AUDIO L
S-Y
S-C
R452 22k
U-3 4P BLK (-L) :S-MICRO
SW1
SW2
TO ANT SW
Q414 2SA1175 ANT-SW3
Q415 2SC2785 ANT-SW4
Q413 2SA1175 ANT-SW2
Q412 2SA1175 ANT-SW1
L402 JW (S)
L403 JW (S)
IC401 NJM2245S C-SW
JW12
JW9
JW10
C428 42μF
C430 22μF
Q403 2SA1175 VIDEO-BUFFER
R1420 470
R1421 470
R1422 100
R484 27k :RN
R486 27k :RN
R487 180k :RN
R485 180k :RN
U-29 30P WHT :HINGE-S
S.SW2
TV L
TV R
E (A)
MNT L
MNT R
LS L
LS R
SP SW
SER SW
TV V
ANT
STBY 5V
SDA
SCL
EXT V
EXT Y
EXT C
S SW 1
TO B BOARD B-29
S401
SP SW
R483 1k
S402
SERVICE SW
L404 10μH :EL0607
C445 47 16V
IC444 CXA1114P SV-SW
BIAS
VIN1
VCC
VIN2
G (A)
VIN3
LIN1
RIN1
LIN2
RIN2
LIN3
RIN3
LIN0
RIN0
TVVIN
G (V)
VO2
VO1
G (B)
TVVO
SDA
SCL
RO2
LO2
RO1
LO1
RO0
LO0
R447 220
R448 220
R460 100
R466 100
R467 100
C431 100 25V
C433 22 25V
C434 22 25V
C436 1
C435 1
D409 RD6.8ESB2 PROTECTOR
D408 RD6.8ESB2 PROTECTOR

KV-27XBR10
H3
H4
H5
H3-13 3P RED :S-MICRO
STB 5V
SIRCS
E
H4-14 3P RED :S-MICRO
IC51 BX1393
S51 POWER
D54 1SS119 LAT
STBY 5V
H3-12 9P WHT :S-MICRO
LAT
STEREO
TIMER
SLEEP
STBY 5V
SET 5V
SCAN 0
SCAN 1
TO A BOARD A-12
D51 TLR124 SLLEP-LED
D52 TLR124 STEREO-LED
D53 TLR124 TIMER-LED
S52 CH+
S53 CH-
S54 VOL+
S55 VOL-
S56 VIDEO
S57 SURROUND/PIP
JW02
H3-11 10P WHT :S-MICRO
POWER
KEY 0
KEY 1
KEY 2
KEY 3
KEY 4
KEY 5
KEY 6
KEY 7
TO A BOARD A-11
D05 1SS119 LABEL
D07 1SS119 CAPTION
IC51 BX-1398 SENSOR

J402
INPUT 3
AUDIO (R) (L/MONO)
VIDEO
R429 27k
R409 27k
R407 75
C405 22 25V
R437 180k
C408 1
D403 RD6.8ESB2 PROTECTOR
R410 180k
C407 1

J403
M.OUT
AUDIO (R) (L/MONO)
VIDEO
S-VIDEO
R427 470k
R428 3.9k
R426 3.9k
R425 470k
R470 68
C421 470 16V
R422 470k
R471 68
C422 470 16V
R423 470k
R472 68
C423 0.01 F
R424 470k
C425 22 25V
C424 22 25V
D421 RD6.8ESB2 PROTECTOR
D422 RD6.8ESB2 PROTECTOR
D423 RD6.8ESB2 PROTECTOR

J404
A.OUT
(R) (L)
R417 470k
R418 1k
R419 470k
R420 1k
C437 22 25V
C409 22 25V

AUDIO R
AUDIO L

9.3V
C418 100 25V
C419 100 25V
R435 68
R432 100
C426 47 16V
Q402 2SC2785 C-BUFFER
R433 470
Q408 2SC2785 V-BUFFER
C420 47 16V
R439 470
R434 220
R441 220
R1425 10k
Q416 2SC2785 BUFF
D418 1SS119 OR
D419 1SS119 OR
R1424 10k
R1423 100k
JW11
63 IC402 NJM2245S Y-SW
V IN 3 | VCC | NC | V OUT | GND | V IN 1 | SW1 | V IN 2 | SW2
C438 22 25V
C439 22 25V
S-Y
JW3
JW1
Q409 2SC2785 Y-BUFFER
R449 470
R450 220
R459 1k
C490 0.01 F
Q405 2SC2785 C-BUFFER
R457 100
R440 1k
Q404 2SC2785 C-BUFFER
R438 100
S-C
R462 1k
C491 47 16V
Q406 2SC2785 VIDEO-BUFF
R465 1k
C440 47 16V
Q407 2SC2785 VIDEO-BUFF
R463 100
R1403 1k
Q1401 2SC2785 VIDEO-BUFF
R1402 100
VIDEO
Q411 2SC2785 Y-BUFFER
R474 100
R475 1k
Q410 2SC2785 Y-BUFFER
R458 100
R461 1k
Q492 2SC2785 BUFFER
IC405 NJM-2233BS V/S-SW
NC | VCC | NC | SW OUT | GND | V IN 1 | SW | V IN 2 | NC
C429 47 16V
R477 JW(10)
IC1401 NJM-2233BS V/S-SW
C462 47 16V
C1402 47 16V
JW7
R1401 100
C1403 47 16V
Q401 2SC2785 Y-BUFFER
R497 1k
C495 100p
L401 10uH (EL0606)
R436 4.7k
R498 1k
Q491 2SC2785 Y/C-MIX
R493 15k
R495 1k
C493 47 16V
R490 1k
R491 1k
C492 22 25V
R492 1k
R494 10k
R496 4.7k

U-4 8P YEL (-L) :S-MICRO
1 CV 1
2 E (A)
3 E (V)
4 E (V)
5 PV OUT
6 E (V)
7 CV OUT
8 E (V)

R60

S51 POWER
D54 1SS119 LAT
C53 0.47
C52 0.47
R54 47k
STBY 5V
C55 470p B
D51 TLR124 SLEEP-LED
D52 TLR124 STEREO-LED
R53 220
D53 TLR124 TIMER-LED
S52 CH+
S57 SURROUND/PIP

H5-12 9P WHT :S-MICRO
9 LAT
8 STEREO
7 TIMER
6 SLEEP
5 STBY 5V
4 E
3 SET 5V
2 SCAN 0
1 SCAN 1
TO A BOARD A-12

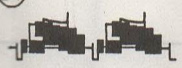
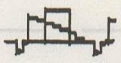
H5-11 10P WHT :S-MICRO
10 SIRCS
9 POWER
8 KEY 0
7 KEY 1
6 KEY 2
5 KEY 3
4 KEY 4
3 KEY 5
2 KEY 6
1 KEY 7
TO A BOARD A-11

D05 1SS119 LABEL
D07 1SS119 CAPTION

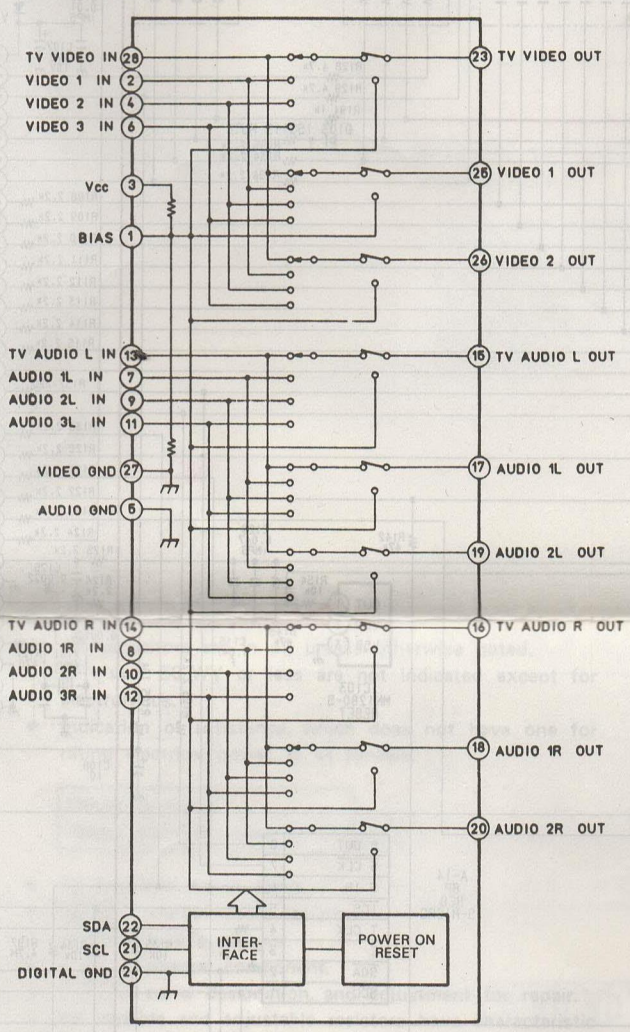
X (MTS-DECODE)

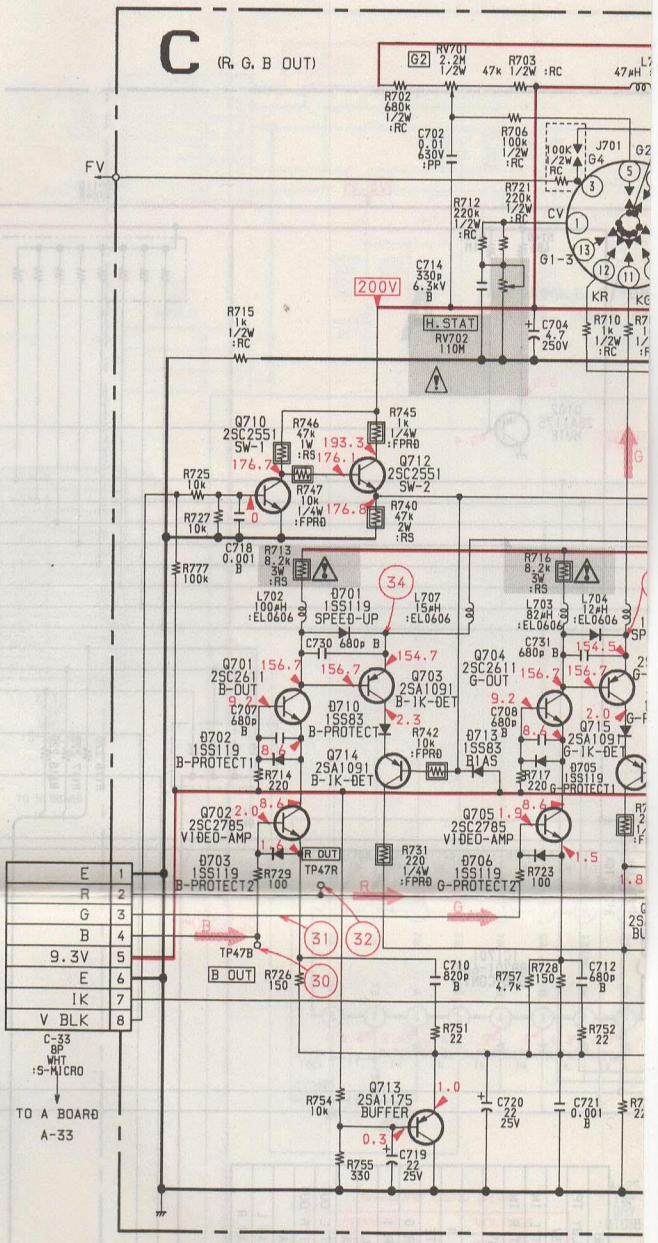
IC251 CXA1264S MTS-DECODE
H.F OUT R | L LSOUT | H.F OUT L | R LSOUT | TREBLE (L) | BASS (L) | TV OUT R | SURR | TV OUT L | BASS (R) | TREBLE (R) | EXT IN R | SDA | EXT IN L | SCL | GND (B) | 4.4V | SAP DET | BBX IN | NOISE DET | I REF | VCC | SUB IN | PILOT DET | SUB OUT | PILOT DET | RANGAP
C277 10
C266 10
C275 0.0022 :MPS
R260 220
R259 220
C274 0.0022 :MPS
C282 10
C284 10
R258 220
R257 220
C273 47 16V
C276 0.001 B
R266 30k :RN
C272 1
R251 220
R252 220
C251 1
C252 0.022 :MPS
C253 1
R253 220
R254 220
C254 0.033 100V :PP
C255 1
C257 4.7
C256 100 25V
C280 10
C281 10
AUDIO R
AUDIO L

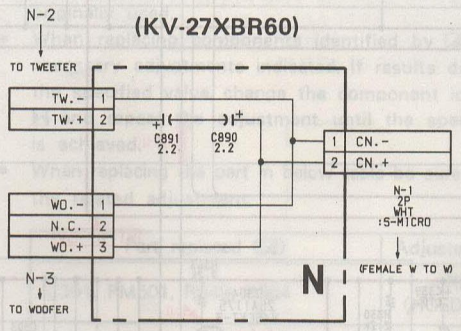
U BOARD WAVEFORM

61	62 (S : IN)	63 (S : IN)
		
1.5Vp-p (H)	1.7Vp-p (H)	2.4Vp-p (H)

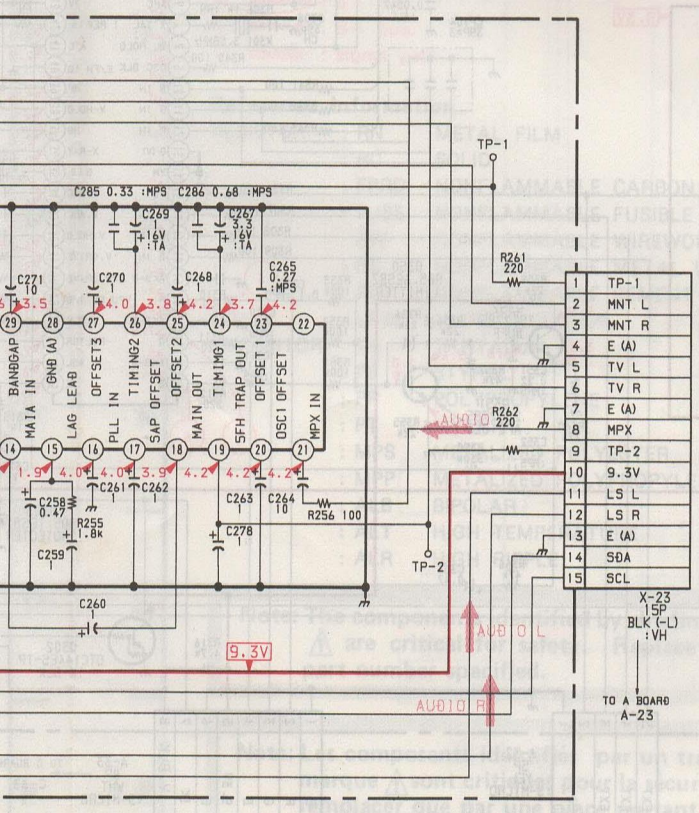
U BOARD IC444 CXA1114P

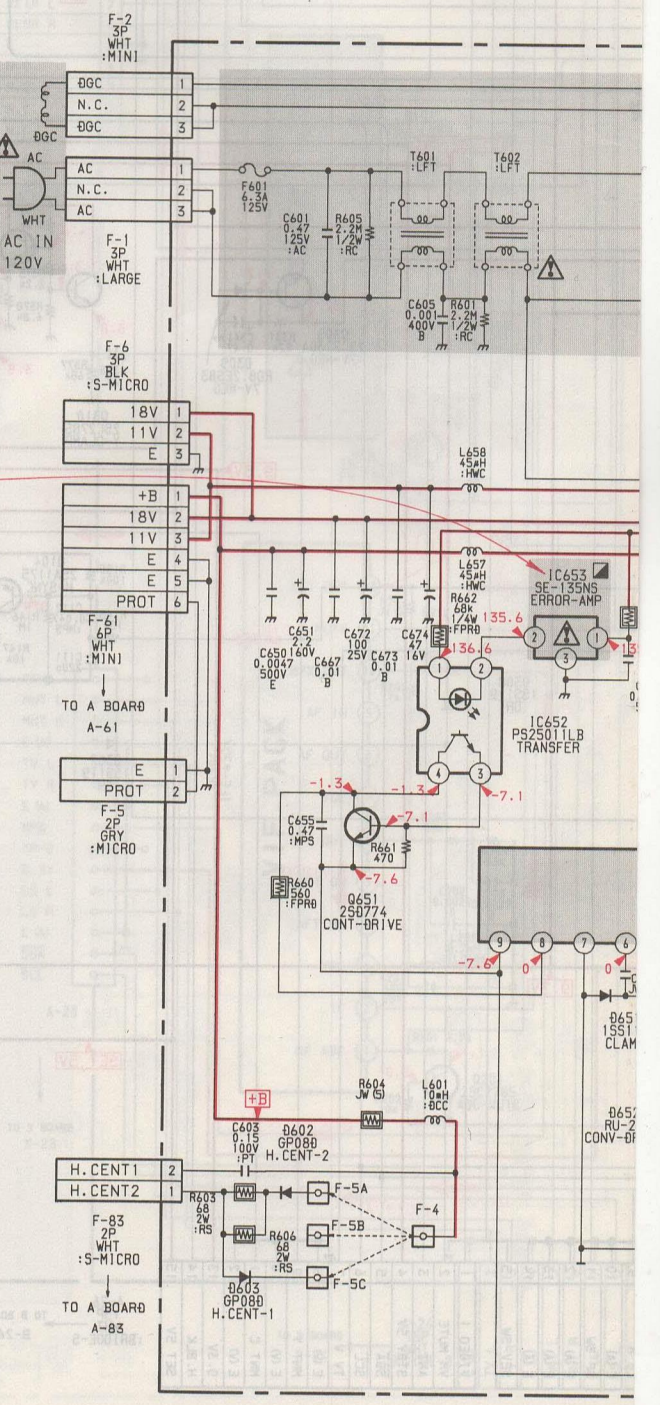


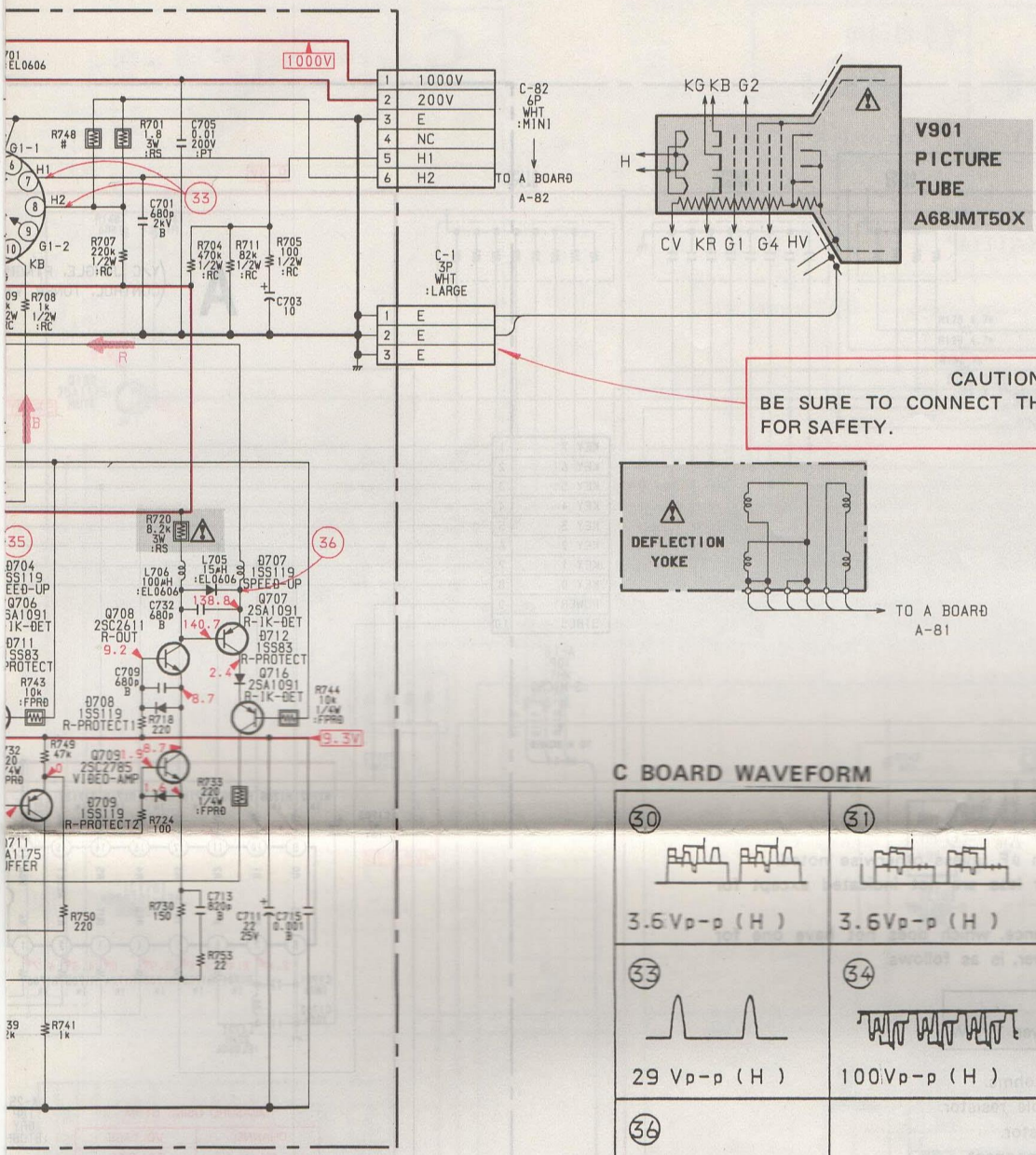




CAUTION
CONFIRM THAT THE VOLTAGE OF B+ MAX VOLTAGE IS WITHIN THE STANDARD VALUE WHEN REPLACING IC653 AND R663.





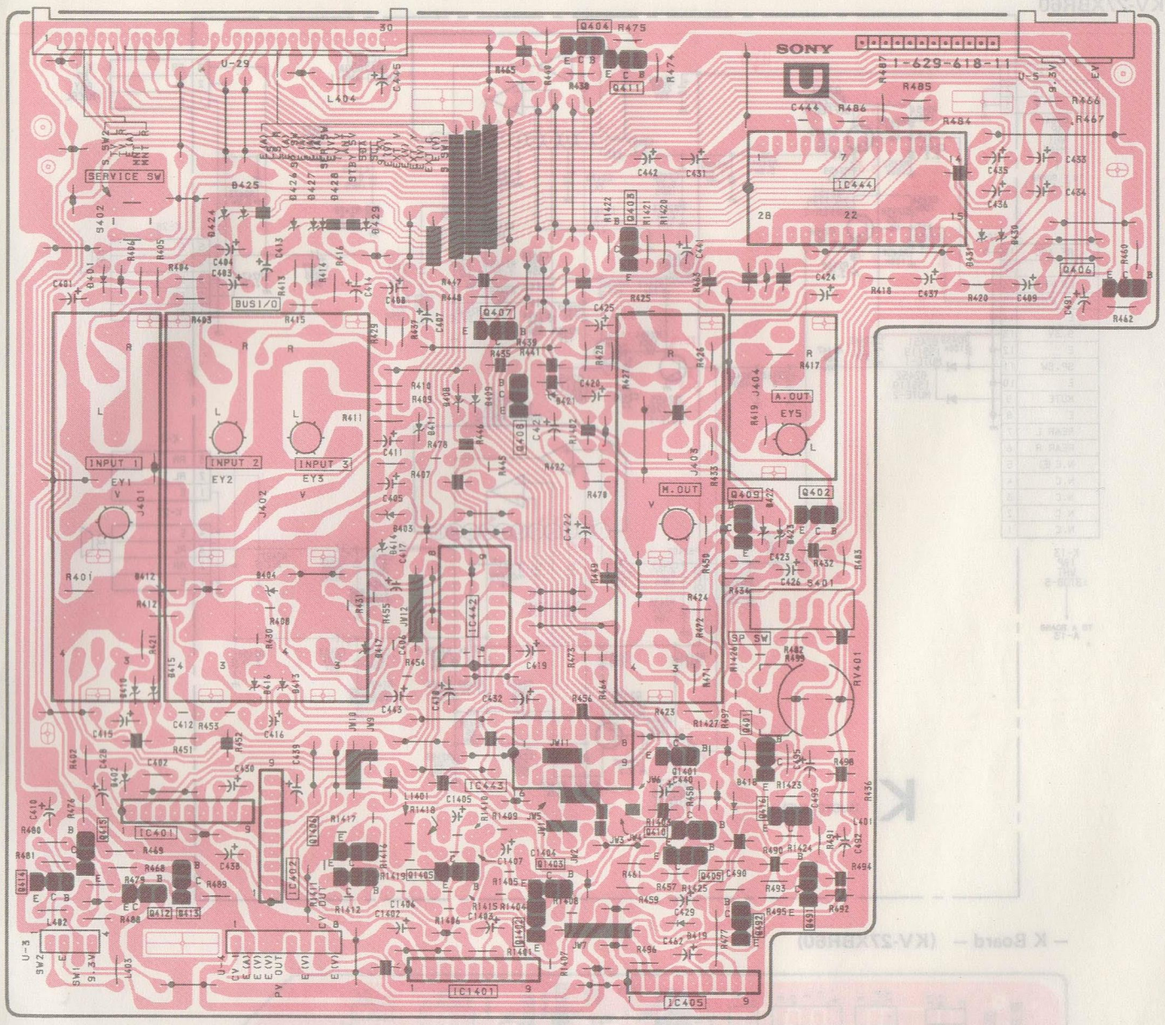

1000V
1 1000V
2 200V
3 E
4 NC
5 H1
6 H2
C-82 6P WHT :MINI
TO A BOARD A-82
C-1 3P WHT :LARGE
1 E
2 E
3 E
KG KB G2
H
CV KR G1 G4 HV
V901 PICTURE TUBE A68JMT50X
CAUTION
BE SURE TO CONNECT THE CONNECTOR C-1 FOR SAFETY.
DEFLECTION YOKE
TO A BOARD A-81
R748 #
R701 1.8 3W :RS
C705 0.01 200V :PT
C701 680p 2kV B
R707 220k 1/2W :RC
R704 470k 1/2W :RC
R711 82k 1/2W :RC
R705 100 1/2W :RC
C703 10
R708 1k 1/2W :RC
R720 8.2k 3W :RS
L705 15uH :EL0606
L706 100uH :EL0606
C732 680p B
Q708 2SC2611 R-OUT
Q707 2SA1091 R-IK-DET
D712 1SS83 R-PROTECT
C709 680p B
Q716 2SA1091 R-IK-DET
D708 1SS119 R-PROTECT1
R718 220
R744 10k 1/4W :FPRD
9.3V
R749 47k
Q709 2SC2785 VIDEO-AMP
R733 220 1/4W :FPRD
D709 1SS119 R-PROTECT2
R724 100
R750 220
C713 820p B
C714 22 25V
C715 0.001 B
R753 22
R741 1k
C BOARD WAVEFORM
30 3.6Vp-p (H)
31 3.6Vp-p (H)
32 4 Vp-p (H)
33 29 Vp-p (H)
34 100Vp-p (H)
35 104Vp-p (H)
36 150Vp-p (H)
CAUTION
THIS SET IS EQUIPPED WITH A POLARIZED AC POWER CORD PLUG (ONE BLADE OF THE PLUG IS WIDER THAN THE OTHER). WHEN REPLACING THE AC POWER CORD. BE SURE TO CONNECT IT WITH SPECIFIED PART NUMBER AS SHOWN IN THIS DIAGRAM.
F-62 5P WHT :S-MICRO
TO A BOARD A-62 (W)
1 E
2 SEC OUT1
3 SEC OUT2
4 STBY 12V
5 RY DRIVE
THP601
T603 :PT
C616 0.47 125V :AC
RY601
D605 GP080 PROTECT
D607 1SS119 VOLTAGE-SHIFT
R609 1k
Q602 2SC2551 RLY-DRIVE
C618 47 16V
R607 2.2k
ST BY 12V
F
(POWER)
L659 30uH :CH
11V
18V
+B (135V)
F-69 1P WHT :LARGE
TO A BOARD A-69
R663 330 1/4W :FPRD
Q653 2SA1175 OVP-3
Q654 2SA1175 OVP-1
R664 4.7k
R665 1k
R669 1k
IC654 SE-135N +B-PROTECT
C617 0.0022 500V E
R670 6.8k :FPRD
R666 4.7k
R667 1k
R613 100k
R668 10k
C610 47 16V
Q652 2SC2785 OVP-2
R615 470k
R614 10k
Q603 2SA1091 OCP-1
D604 1SS119 PROT-2
R612 1k :FPRD
C611 100 25V
R608 220k
R611 0.47 3W :RW
R620 82k 1W :RS
R627 JW (5)
D601 RBV-406H AC-REG
C606 0.0047 400V F (125VAC)
R602 1.5 20W :RB
C607 0.0047 400V F
T651 :SRT (125VAC)
D660 RU4AM-K1 135VRECT-1
F-68 1P WHT :LARGE
IC651 STR-S6301A POWER-CONV
C622 270k 1/2W :RC
R655 270k 1/2W :RC
R691 82k 2W :RS
R692 82k 2W :RS
R693 82k 2W :RS
R694 82k 2W :RS
R695 82k 2W :RS
C657 0.01 630V 10N :PP
FB658 0.45UH
C658 0.0047 2kV E
FB659 1.1UH
D653 RU-1P CLAMP
FB660 0.45UH
C668 680p 2kV B
FB655 1.1UH
C666 1000 160V
D659 D8LCA20 14VRECT-1
R618 JW (15)
FB662 1.1UH
R619 0.22 1W :RS
D658 RK14 8VRECT
FB663 1.1UH
R621 10k
C664 470 16V
R622 3.3k
C665 1000 25V
F-63 1P WHT :LARGE
TO CRT SIELD
F-67 2P YEL :S-MICRO
TO FO BOARD
F-66
F-65
D657 D5KC20H 30VRECT-2
FB664 1.1UH
22V
22V (17V)
R623 1.2k 2W :RS
F-64 3P WHT :MINI
TO K BOARD K-64
C661 0.0047 B
C660 0.0047 400V F (125V)
R672 4.7 1/4W :FPRD
C654 47 25V
R671 8.2M 1/2W :RC
C652 100
R624 1.8k 2W :RS
C653 220p 500V B
R675 15 2W :RS
C656 0.047 100V :PT
R676 18 2W :RS
R654 33 7W :RW
R690 33 7W :RW
R696 47 5W :RW
R651 0.1 2W :RW
R652 0.1 2W :RW

KV-27XBR10/27XBR60
RM-762

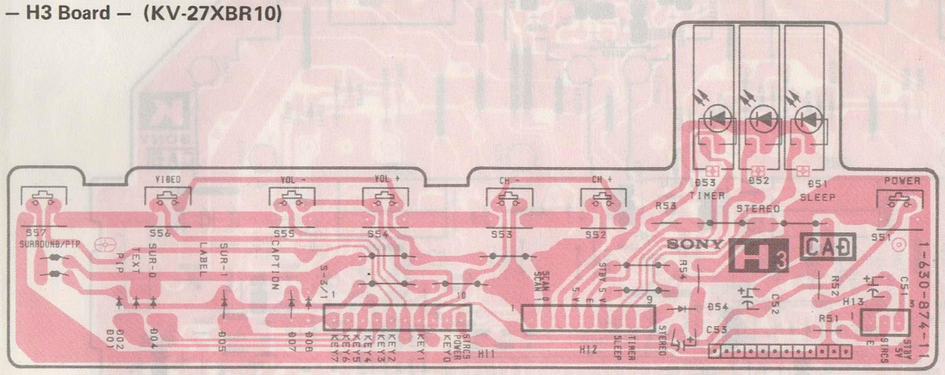
U [VIDEO SW, AUDIO SW, Y/C SW, LOGIC] **H3**

H5 **H4** **N**

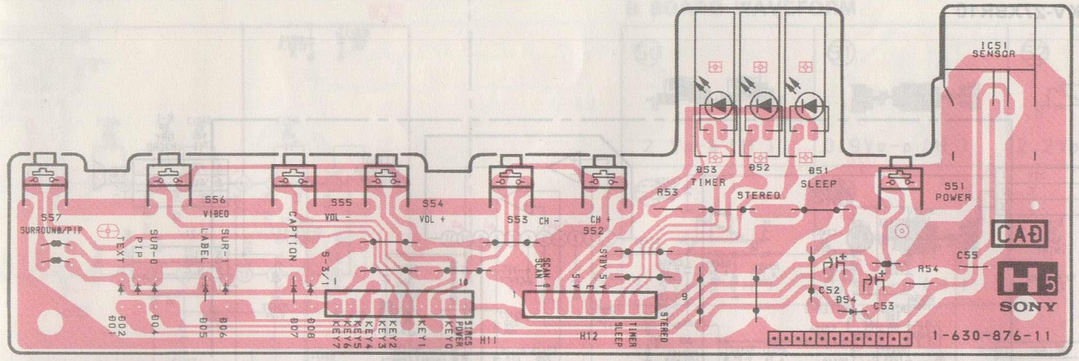
– U Board –



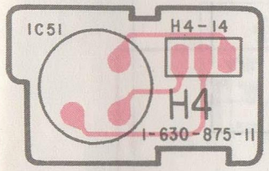
– H3 Board – (KV-27XBR10)



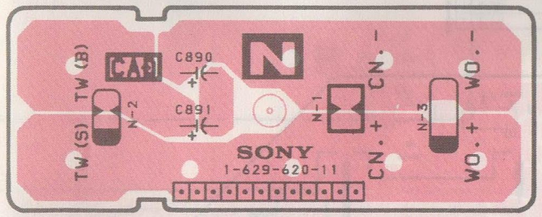
– H5 Board – (KV-27XBR60)



– H4 Board – (KV-27XBR10)



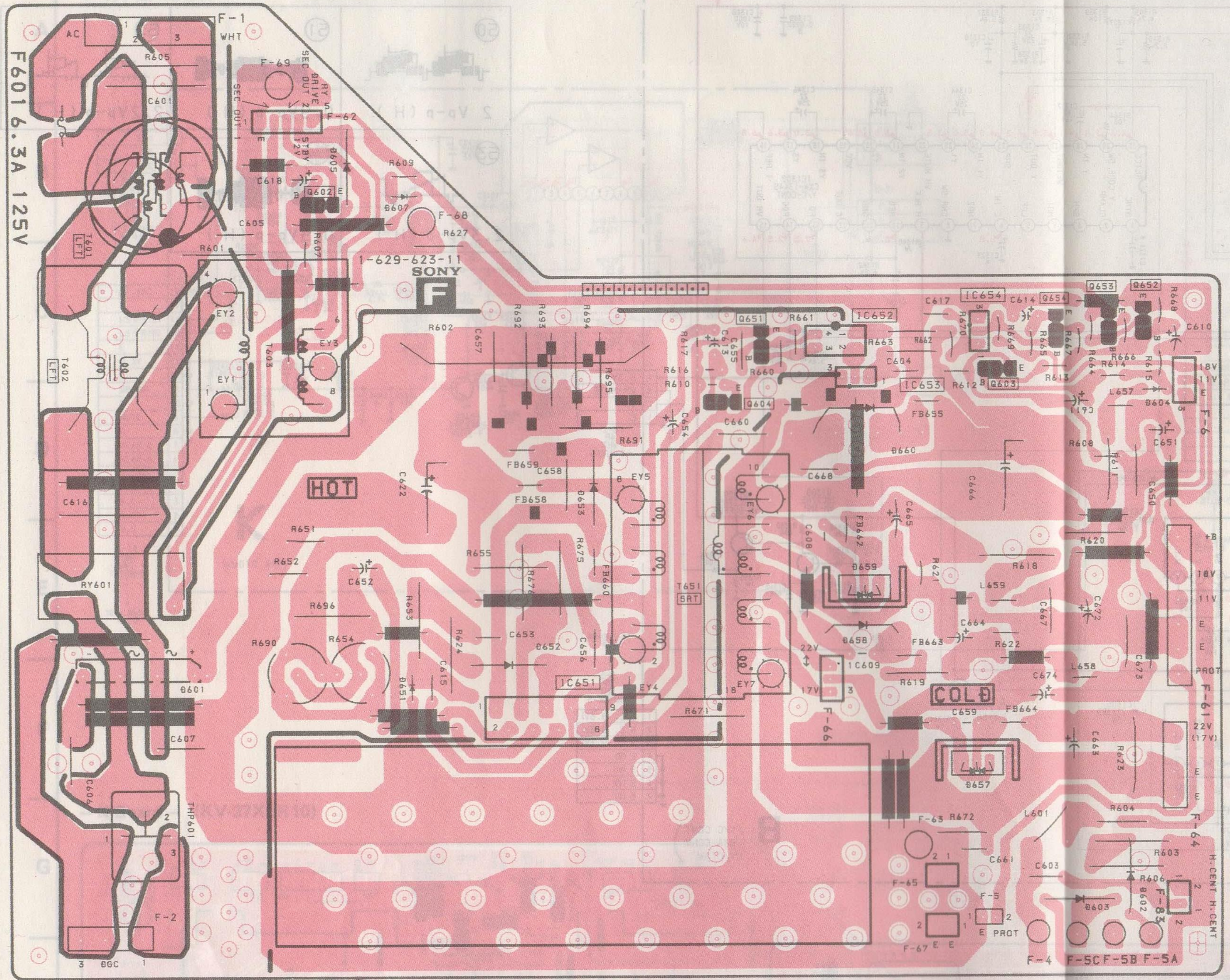
– N Board – (KV-27XBR60)



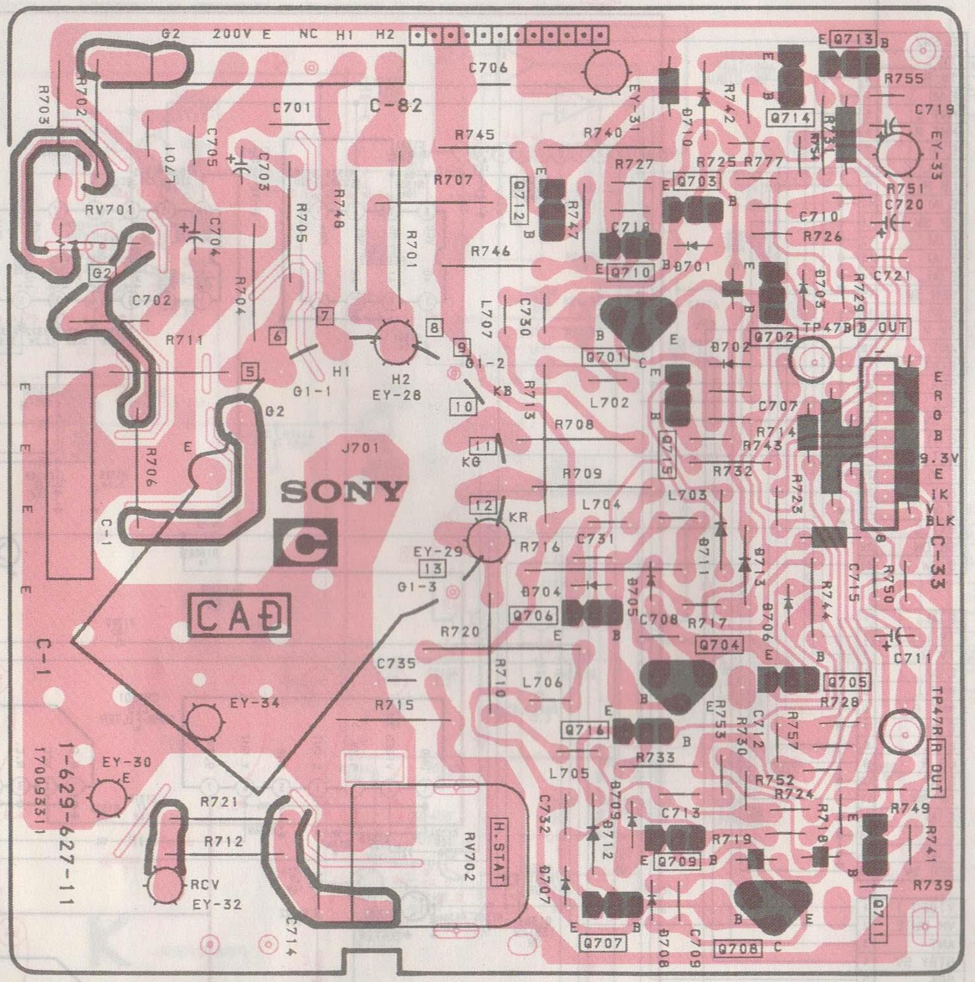
KV-27XBR10/27XBR60
RM-762

F [POWER] **C** [R·G·B OUT] **X** [MTS-DECODE]

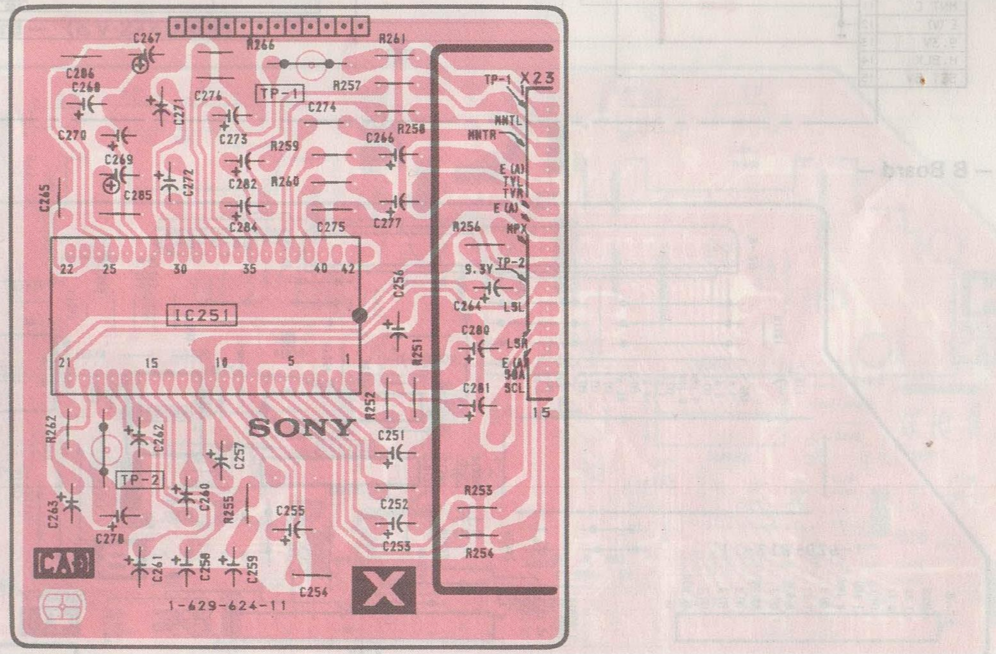
– F Board –

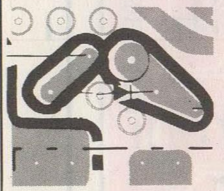


– C Board –



– X Board –

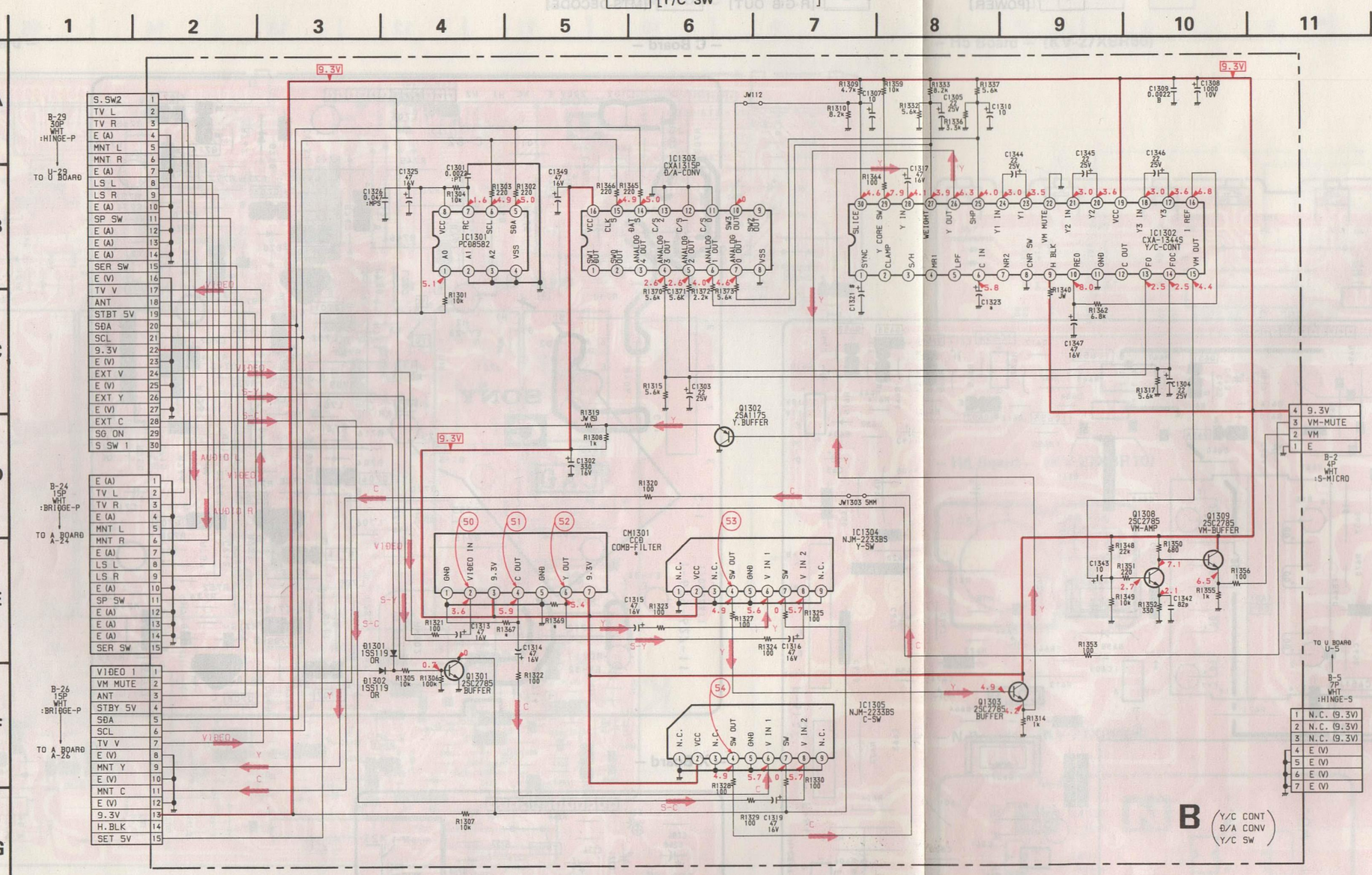




NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

KV-27XBR10/27XBR60
RM-762

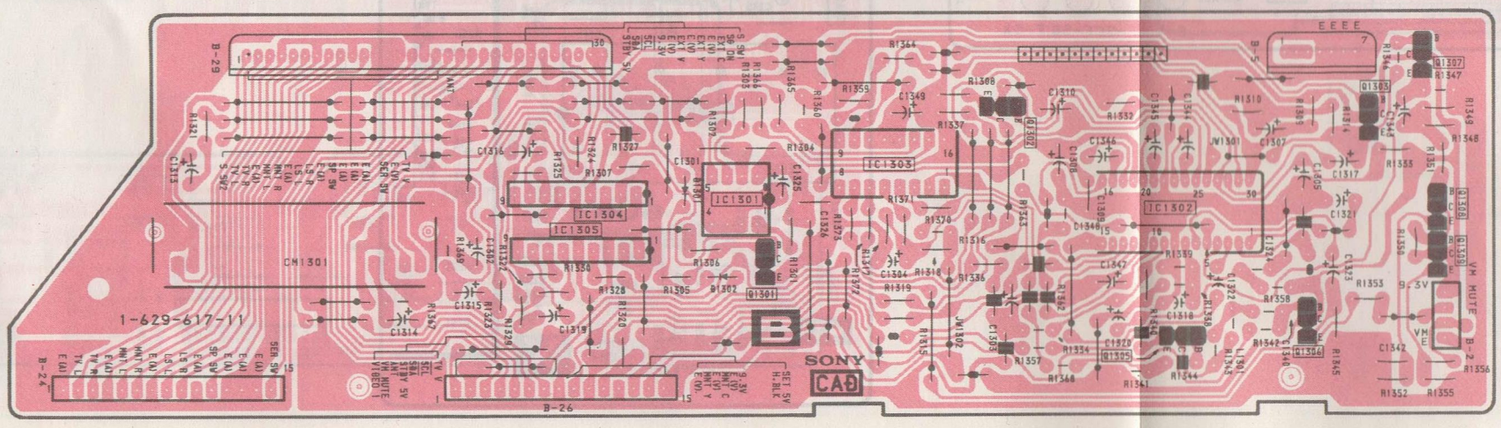
B [Y/C CONT, D/A CONV / Y/C SW]



B BOARD WAVEFORM

(50) 2 Vp-p (H)	(51) 0.9Vp-p (H)	(52) 2.2Vp-p (H)
(53) 2.3Vp-p (H)	(54) 0.9Vp-p (H)	

— B Board —



KV-27XBR10/27XBR60
RM-762

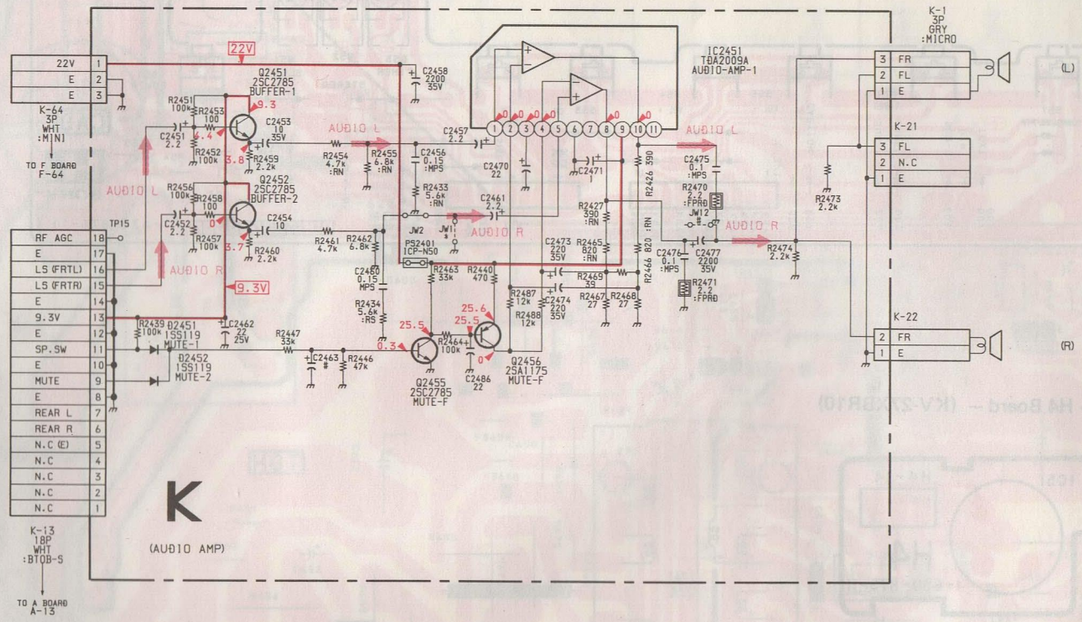
K [AUDIO AMP]

K [AUDIO AMP]

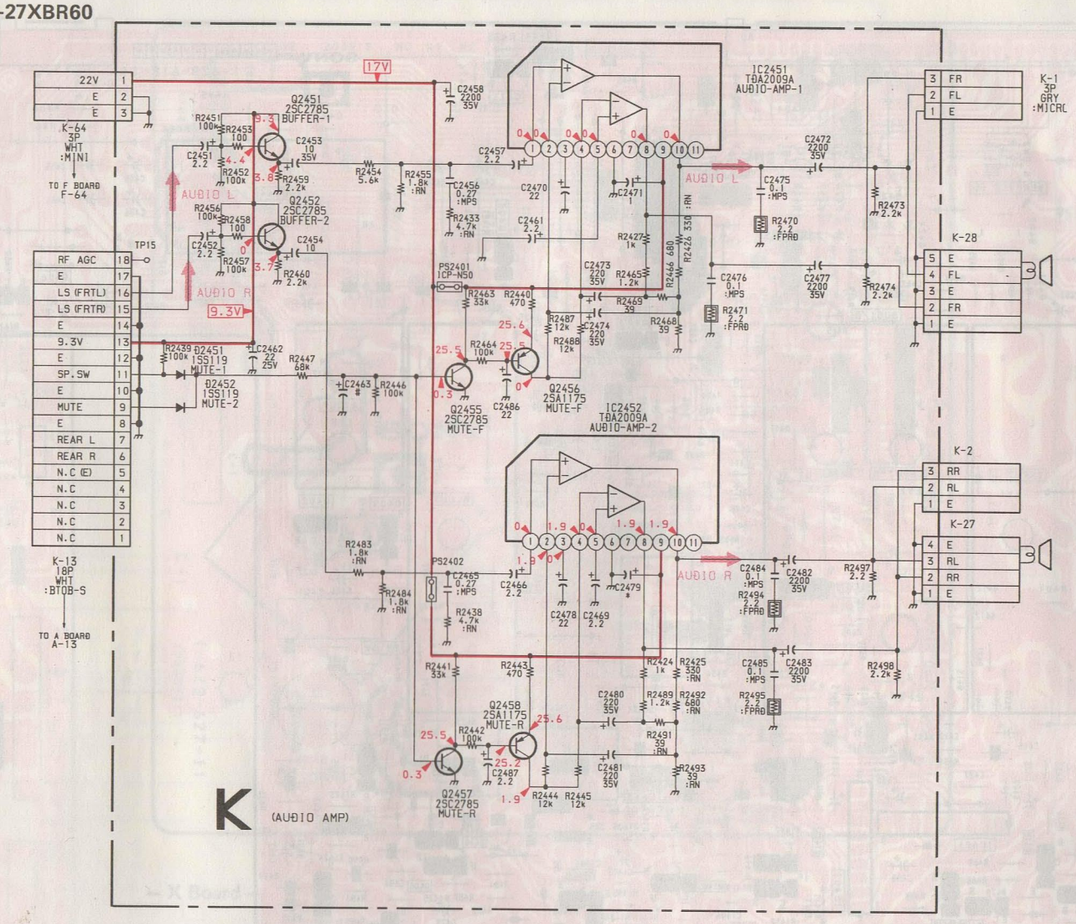
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

A B C D E F G H I J

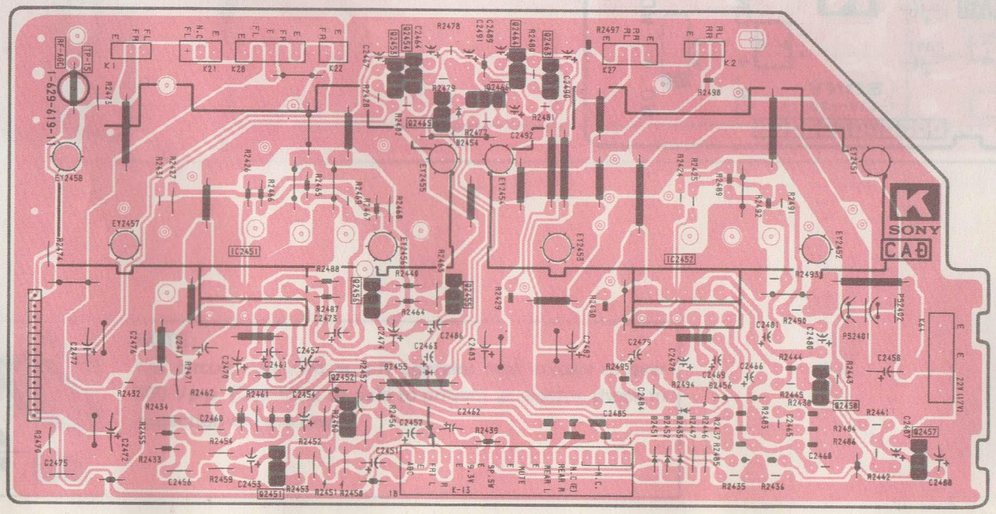
● KV-27XBR10



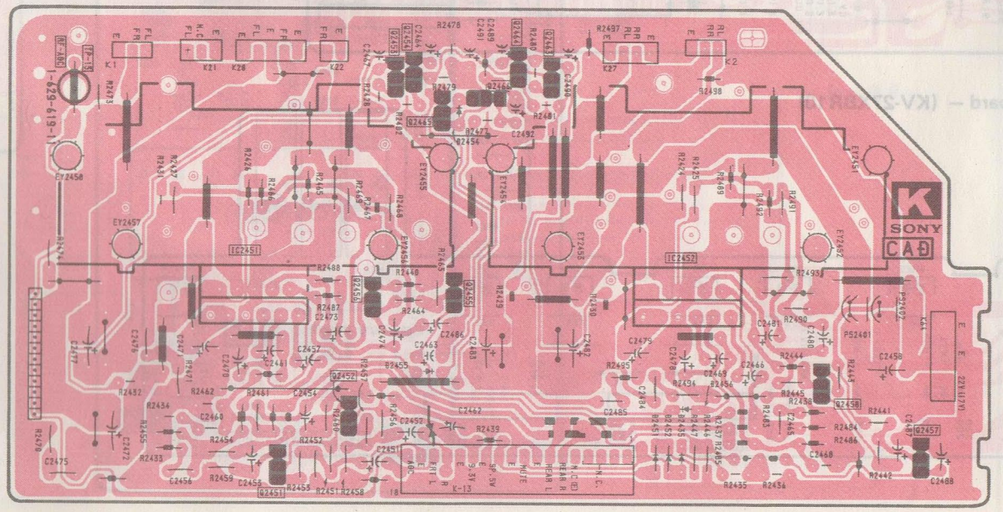
● KV-27XBR60



– K Board – (KV-27XBR10)

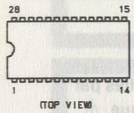


– K Board – (KV-27XBR60)

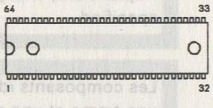


6-5. SEMICONDUCTORS

CXA1114P

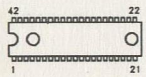


M-37100M8

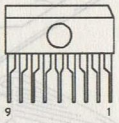


NJM-2233BS

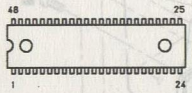
CXA1264S



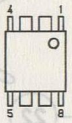
NJM-2245S



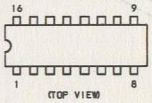
CXA1313S
MB88201-638L



PCD858Z
PCD8582

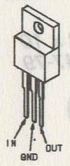


CXA1315P



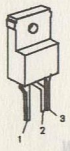
CXA1334S

RC7812FA
μPC7805H

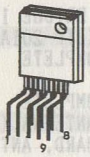


MN1280-S

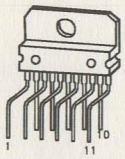
SE-135N
SE-135NS



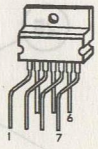
STR-S6301A



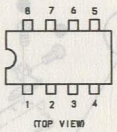
TDA2009A



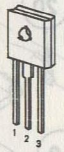
TDA8172



μPC393C



μPC78N05H



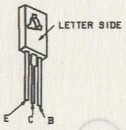
μPC7893HF

2SA1091
2SC2551

2SA1175
2SC2785
2SC2785-HFE

2SD774

2SC2611
2SC2688-LK



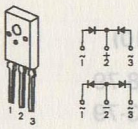
2SC2230A

2SC3298B-Y

2SD1406

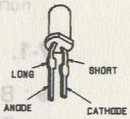
2SD1941-06

D5KC40H
D8LCA20



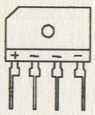
PS2501-1LB

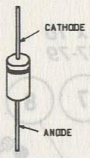
TLR124



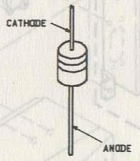
RBV-406H-01

EL1Z
ES1F
RGP15J
1SS83

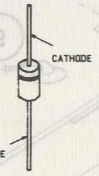




RD4.7ES-B2
RD5.6ES-B2
RD6.8ES-B2
RD8.2ES-B2
RD9.1ES-B2
RD10ES-B2
RD33ES-B2
1SS119
1SV113

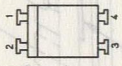


ERC25-06S
ERC81-004
RU-1P
RU-3AM



RG3G-5007L
U05G

PC817-C



RU-4DS

S1VB40

SECTION 7
EXPLODED VIEWS

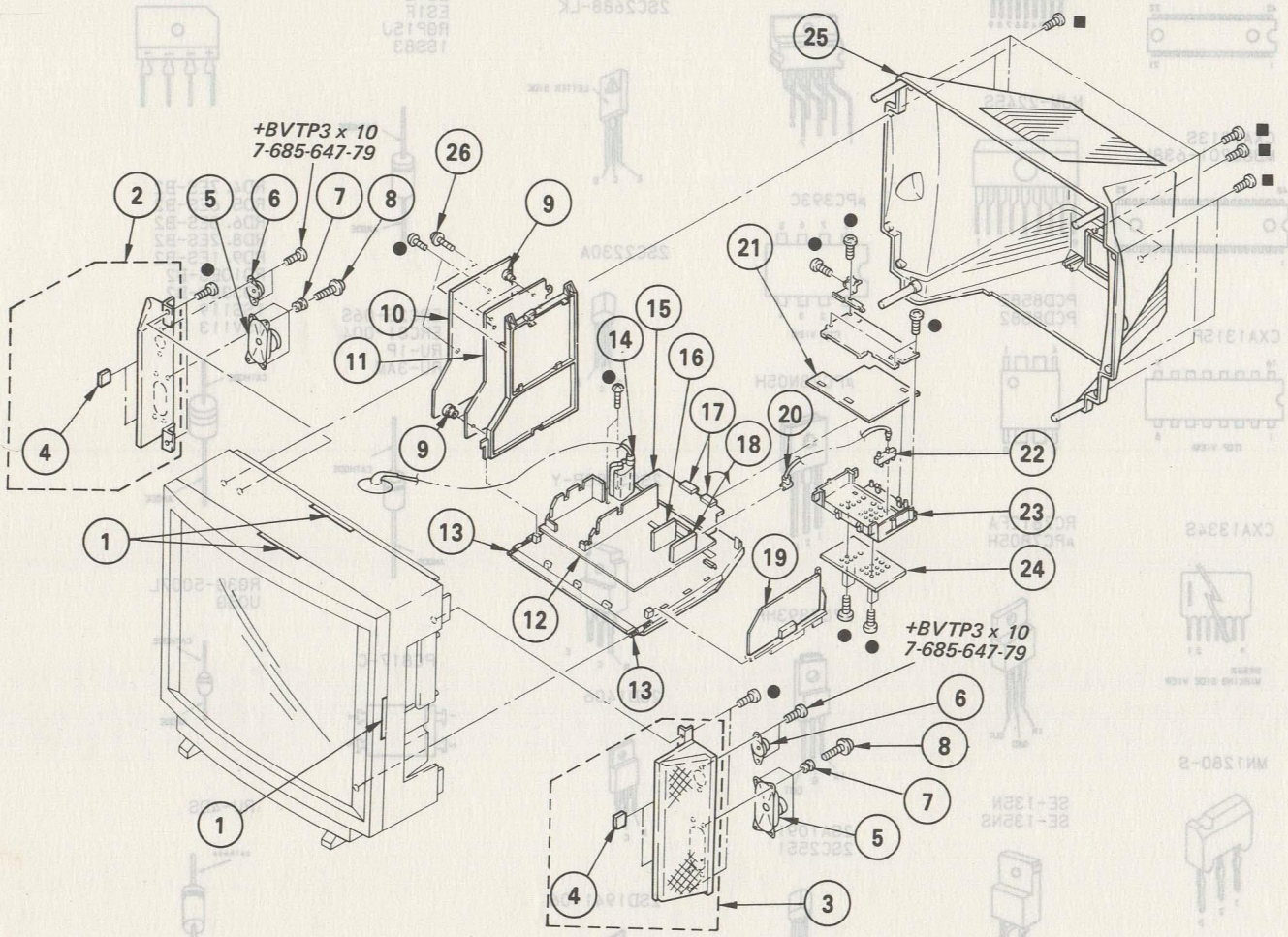
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-1. CHASSIS (KV-27XBR10)

● : BVTP3 x 12 7-685-648-79
■ : BVTP4 x 16 7-685-663-79

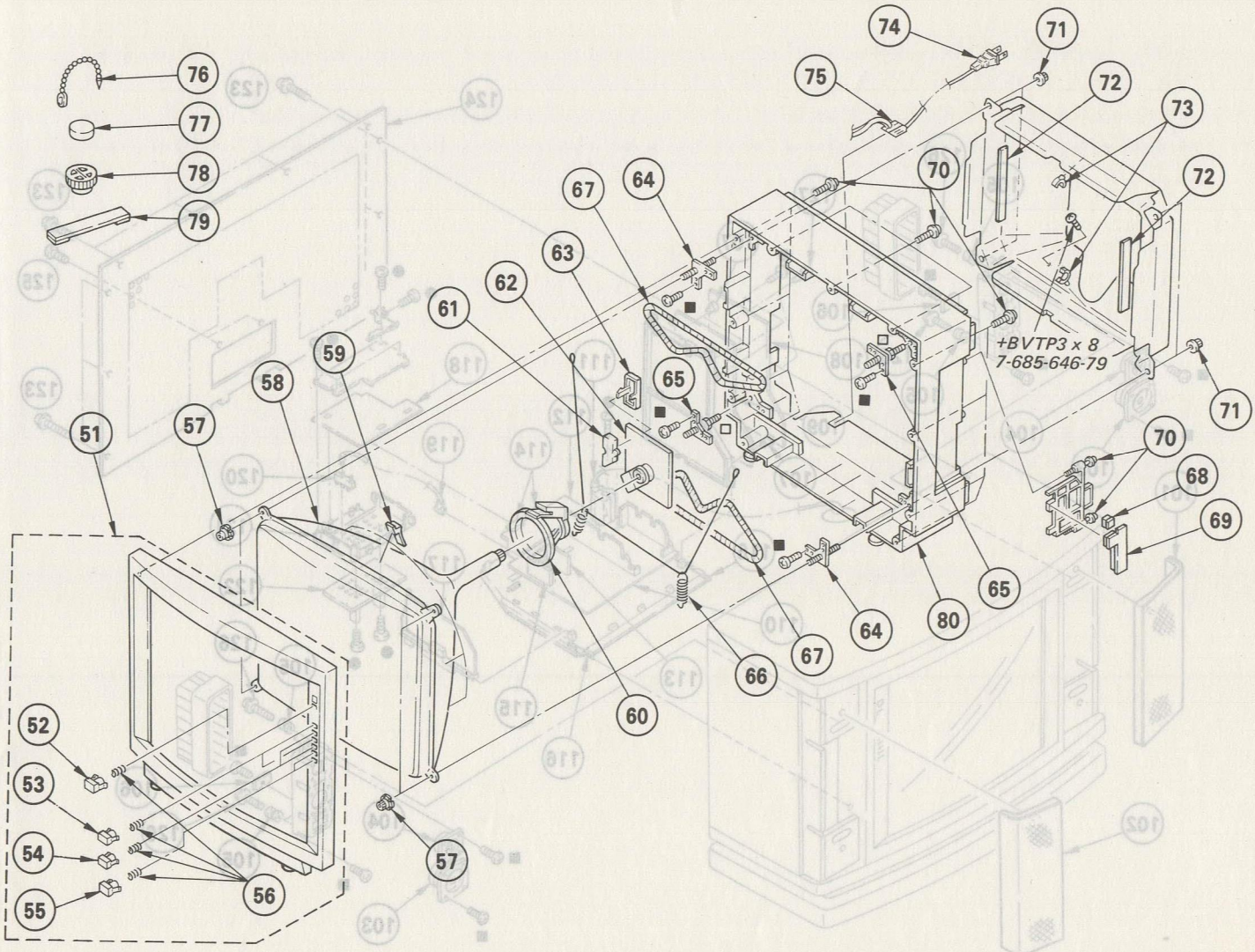


REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-389-606-01	SHEET, ADHESIVE	
2	X-4393-406-1	PANEL (LEFT) ASSY, SP	4
3	X-4393-405-1	PANEL (RIGHT) ASSY, SP	4
4	3-831-441-99	CUSHION (A)	
5	1-503-914-11	SPEAKER	
6	1-503-485-11	SPEAKER (PIEZOERECTRIC TWEETER)	
7	*4-379-189-01	CUSHION, SPAEKER	
8	*4-379-192-01	SCREW, TAPPING, STEP	
9	3-531-576-31	RIVET (DIA. 3), NYLON	
10	*A-1245-452-A	F BOARD, COMPLETE	
11	*1-629-628-11	FO BOARD	
12	*A-1296-567-A	A BOARD, COMPLETE	16
13	4-319-520-11	SCREW, SPECIAL (+PW4X30)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
14	⚠1-439-455-11	TRANSFORMER ASSY, FLYBACK (NX-2300)	
15	*A-1135-559-A	B BOARD, COMPLETE	
16	*1-629-624-11	X BOARD	
17	*1-568-507-11	CONNECTOR, BRIDGE 15P	
18	⚠1-463-771-11	TUNER, ET (BTP-201A)	
19	*A-1385-051-A	K BOARD, COMPLETE	
20	*1-556-945-21	CABLE, P-P	
21	*A-1394-173-A	U BOARD, COMPLETE	
22	⚠1-417-177-11	SELECTOR, ANTENNA (AS-1)	
23	4-393-419-01	TERMINAL BOARD, ANTENNA	
24	4-393-414-01	LABEL, ANTENNA	
25	4-393-423-01	COVER, REAR	
26	4-388-477-01	SCREW (3X16), TAPPING	

7-2. PICTURE TUBE (KV-27XBR10)

■ : BVTP4 x 16 7-685-663-79
□ : BOLT, HEXAGON 5 x 20 7-683-340-07



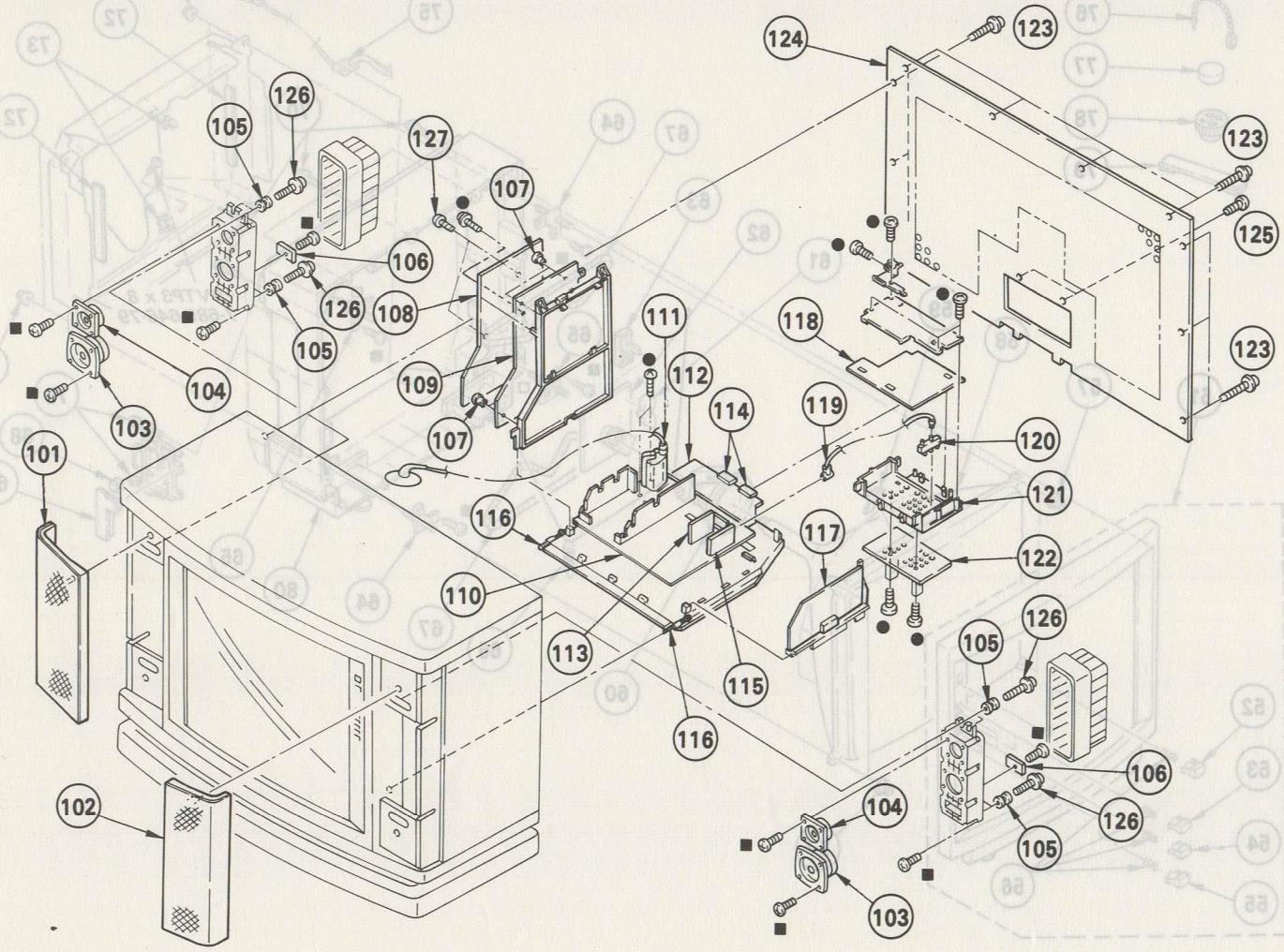
REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4393-404-1	BEZEL ASSY	52-56
52	4-388-327-01	BUTTON, POWER	
53	4-383-185-01	BUTTON, PLUS	
54	4-383-186-01	BUTTON, MINUS	
55	4-383-187-01	BUTTON, SELECTION	
56	3-571-850-11	SPRING, COMPRESSION	
57	4-376-980-01	NUT, SPECIAL, PICTURE TUBE	
58	⚠8-737-753-05	PICTURE TUBE (A68JMT50X)	
59	3-703-961-01	SPACER, DY	
60	⚠1-451-275-11	DEFLECTION YOKE (Y28PFA)	
61	*4-379-167-01	COVER (MAIN), CV	
62	*A-1330-949-A	C BOARD, COMPLETE	
63	*4-379-160-01	COVER (REAR LID), CV	
64	*4-379-197-01	BRACKET (H), PICTURE TUBE	
65	*4-376-989-01	BRACKET (E), PICTURE TUBE	
66	4-369-318-00	SPRING, TENSION	
67	⚠1-426-350-21	COIL, DEMAGNETIZATION	
68	*1-630-875-11	H4 BOARD	
69	*1-630-874-11	H3 BOARD	
70	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
71	4-306-034-00	FLANGE NUT, (B) 5MM	
72	*4-378-067-01	CUSHION, PICTURE TUBE	
73	*4-371-629-01	STOPPER, WIRE	
74	⚠1-559-396-11	CORD, POWER	
75	⚠4-388-328-01	GROMMET, AC CORD	
76	4-308-870-00	CLIP, LEAD WIRE	
77	1-452-032-00	MAGNET, DISK; 10MM ϕ	
78	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
79	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
80	4-393-422-01	CABINET (BLACK)	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

7-3. CHASSIS (KV-27XBR60)

● : BVTP3 x 12 7-685-648-79
■ : BVTP4 x 16 7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
101	X-4388-470-1	GRILLE (LEFT) ASSY, SPEAKER	
102	X-4388-469-1	GRILLE (RIGHT) ASSY, SPEAKER	
103	1-503-917-11	SPEAKER	
104	1-544-095-11	SPEAKER	
105	4-374-745-11	CUSHION (A)	
106	*1-629-620-11	N BOARD	
107	3-531-576-31	RIVET (DIA. 3), NYLON	
108	*A-1245-453-A	F BOARD, COMPLETE	
109	*1-629-628-11	FO BOARD	
110	*A-1296-567-A	A BOARD, COMPLETE	113
111	⚠1-439-455-11	TRANSFORMER ASSY, FLYBACK (NX-2300)	
112	*A-1135-559-A	B BOARD, COMPLETE	
113	*1-629-624-11	X BOARD	

REF.NO.	PART NO.	DESCRIPTION	REMARK
114	*1-568-507-11	CONNECTOR, BRIDGE 15P	
115	⚠1-463-771-11	TUNER, ET (BTP-201A)	
116	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
117	*A-1385-052-A	K BOARD, COMPLETE	
118	*A-1394-173-A	U BOARD, COMPLETE	
119	*1-556-945-21	CABLE, P-P	
120	⚠1-417-177-11	SELECTOR, ANTENNA (AS-1)	
121	4-393-419-01	TERMINAL BOARD, ANTENNA	
122	4-393-414-01	LABEL, ANTENNA	
123	4-378-522-01	SCREW, TAPPING, HEXAGON HEAD	
124	*4-393-636-01	BOARD, REAR	
125	3-703-805-21	SCREW, TP, HEXAGON HEAD,WASHER	
126	4-384-096-01	SCREW (4X16), TAPPING, +P	
127	4-388-477-01	SCREW (3X16), TAPPING	

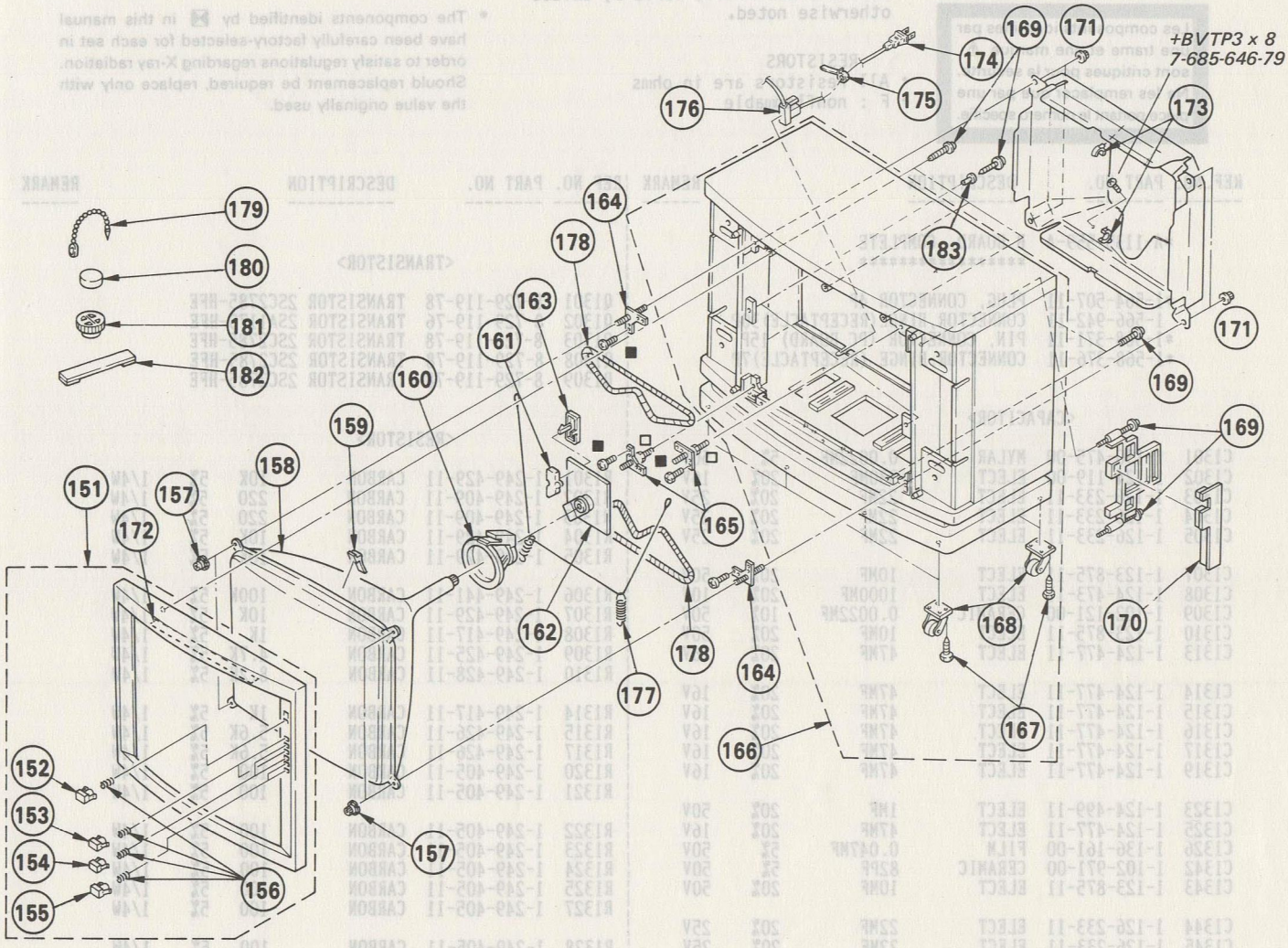
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

7-4. PICTURE TUBE (KV-27XBR60)

■ : BVTP4 x 16 7-685-663-79

□ : BOLT, HEXAGON 5 x 20 7-683-340-07



REF.NO.	PART NO.	DESCRIPTION	REMARK
151	X-4388-472-1	BEZEL ASSY	152-156,172
152	4-388-327-01	BUTTON, POWER	
153	4-383-185-01	BUTTON, PLUS	
154	4-383-186-01	BUTTON, MINUS	
155	4-383-187-01	BUTTON, SELECTION	
156	3-571-850-11	SPRING, COMPRESSION	
157	4-376-980-01	NUT, SPECIAL, PICTURE TUBE	
158	⚠8-737-753-05	PICTURE TUBE (A68JMT50X)	
159	3-703-961-01	SPACER, DY	
160	⚠1-451-275-11	DEFLECTION YOKE (Y28PFA)	
161	*4-379-167-01	COVER (MAIN), CV	
162	*A-1330-949-A	C BOARD, COMPLETE	
163	*4-379-160-01	COVER (REAR LID), CV	
164	*4-376-989-01	BRACKET (E), PICTURE TUBE	
165	*4-379-197-01	BRACKET (H), PICTURE TUBE	
166	X-4388-471-1	CABINET ASSY (OAK)	167,168

REF.NO.	PART NO.	DESCRIPTION	REMARK
167	3-703-805-01	SCREW, TP, HEXAGON HEAD, WASHER	
168	4-394-253-01	CASTER	
169	4-319-520-11	SCREW, SPECIAL (+PW4X30)	
170	*1-630-876-11	H5 BOARD	
171	4-306-034-00	FLANGE NUT, (B) 5MM	
172	*4-378-067-01	CUSHION, PICTURE TUBE	
173	*4-371-629-01	STOPPER, WIRE	
174	⚠1-559-396-11	CORD, POWER	
175	4-334-991-00	BINDER, CORD	
176	⚠4-357-726-02	HOLDER, AC CORD	
177	4-369-318-00	SPRING, TENSION	
178	⚠1-426-350-21	COIL, DEMAGNETIZATION	
179	4-308-870-00	CLIP, LEAD WIRE	
180	1-452-032-00	MAGNET, DISK; 10MM ϕ	
181	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
182	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
183	*4-349-110-00	HOLDER, SCREW	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

B

SECTION 8
ELECTRICAL PARTS LIST

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1135-559-A	B BOARD, COMPLETE			
		**********			
	*1-564-507-11	PLUG, CONNECTOR 4P			
	1-566-942-11	CONNECTOR,HINGE(RECEPTACLE)30P			
	*1-568-371-11	PIN, CONNECTOR (PC BOARD) 15P			
	*1-568-376-11	CONNECTOR,HINGE (RECEPTACLE)7P			
		<CAPACITOR>			
C1301	1-130-475-00	MYLAR	0.0022MF	5% 50V	
C1302	1-124-119-00	ELECT	330MF	20% 16V	
C1303	1-126-233-11	ELECT	22MF	20% 25V	
C1304	1-126-233-11	ELECT	22MF	20% 25V	
C1305	1-126-233-11	ELECT	22MF	20% 25V	
C1307	1-123-875-11	ELECT	10MF	20% 50V	
C1308	1-124-473-11	ELECT	1000MF	20% 10V	
C1309	1-102-121-00	CERAMIC	0.0022MF	10% 50V	
C1310	1-123-875-11	ELECT	10MF	20% 50V	
C1313	1-124-477-11	ELECT	47MF	20% 16V	
C1314	1-124-477-11	ELECT	47MF	20% 16V	
C1315	1-124-477-11	ELECT	47MF	20% 16V	
C1316	1-124-477-11	ELECT	47MF	20% 16V	
C1317	1-124-477-11	ELECT	47MF	20% 16V	
C1319	1-124-477-11	ELECT	47MF	20% 16V	
C1323	1-124-499-11	ELECT	1MF	20% 50V	
C1325	1-124-477-11	ELECT	47MF	20% 16V	
C1326	1-136-161-00	FILM	0.047MF	5% 50V	
C1342	1-102-971-00	CERAMIC	82PF	5% 50V	
C1343	1-123-875-11	ELECT	10MF	20% 50V	
C1344	1-126-233-11	ELECT	22MF	20% 25V	
C1345	1-126-233-11	ELECT	22MF	20% 25V	
C1346	1-126-233-11	ELECT	22MF	20% 25V	
C1347	1-124-477-11	ELECT	47MF	20% 16V	
C1349	1-124-477-11	ELECT	47MF	20% 16V	
		<COMB PACK>			
CM1301	1-466-111-11	COMB PACK, CCD (CCP-1)			
		<DIODE>			
D1301	8-719-911-19	DIODE 1SS119			
D1302	8-719-911-19	DIODE 1SS119			
		<IC>			
IC1301	8-759-972-43	IC PCD8582			
IC1302	8-752-035-32	IC CXA1334S			
IC1303	8-752-035-53	IC CXA1315P			
IC1304	8-759-710-69	IC NJM2233BS			
IC1305	8-759-710-69	IC NJM2233BS			

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<TRANSISTOR>			
Q1301	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1302	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q1303	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1308	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1309	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R1301	1-249-429-11	CARBON	10K	5% 1/4W	
R1302	1-249-409-11	CARBON	220	5% 1/4W	
R1303	1-249-409-11	CARBON	220	5% 1/4W	
R1304	1-249-429-11	CARBON	10K	5% 1/4W	
R1305	1-249-429-11	CARBON	10K	5% 1/4W	
R1306	1-249-441-11	CARBON	100K	5% 1/4W	
R1307	1-249-429-11	CARBON	10K	5% 1/4W	
R1308	1-249-417-11	CARBON	1K	5% 1/4W	
R1309	1-249-425-11	CARBON	4.7K	5% 1/4W	
R1310	1-249-428-11	CARBON	8.2K	5% 1/4W	
R1314	1-249-417-11	CARBON	1K	5% 1/4W	
R1315	1-249-426-11	CARBON	5.6K	5% 1/4W	
R1317	1-249-426-11	CARBON	5.6K	5% 1/4W	
R1320	1-249-405-11	CARBON	100	5% 1/4W	
R1321	1-249-405-11	CARBON	100	5% 1/4W	
R1322	1-249-405-11	CARBON	100	5% 1/4W	
R1323	1-249-405-11	CARBON	100	5% 1/4W	
R1324	1-249-405-11	CARBON	100	5% 1/4W	
R1325	1-249-405-11	CARBON	100	5% 1/4W	
R1327	1-249-405-11	CARBON	100	5% 1/4W	
R1328	1-249-405-11	CARBON	100	5% 1/4W	
R1329	1-249-405-11	CARBON	100	5% 1/4W	
R1330	1-249-405-11	CARBON	100	5% 1/4W	
R1332	1-249-426-11	CARBON	5.6K	5% 1/4W	
R1333	1-249-428-11	CARBON	8.2K	5% 1/4W	
R1336	1-249-423-11	CARBON	3.3K	5% 1/4W	
R1337	1-249-426-11	CARBON	5.6K	5% 1/4W	
R1348	1-249-433-11	CARBON	22K	5% 1/4W	
R1349	1-249-429-11	CARBON	10K	5% 1/4W	
R1350	1-249-415-11	CARBON	680	5% 1/4W	
R1351	1-249-409-11	CARBON	220	5% 1/4W	
R1352	1-249-411-11	CARBON	330	5% 1/4W	
R1353	1-249-405-11	CARBON	100	5% 1/4W	
R1355	1-249-417-11	CARBON	1K	5% 1/4W	
R1356	1-249-405-11	CARBON	100	5% 1/4W	
R1359	1-249-429-11	CARBON	10K	5% 1/4W	
R1362	1-249-427-11	CARBON	6.8K	5% 1/4W	
R1364	1-249-405-11	CARBON	100	5% 1/4W	
R1365	1-249-409-11	CARBON	220	5% 1/4W	
R1366	1-249-409-11	CARBON	220	5% 1/4W	
R1370	1-249-426-11	CARBON	5.6K	5% 1/4W	

B F

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1371	1-249-426-11	CARBON 5.6K 5% 1/4W	
R1372	1-249-421-11	CARBON 2.2K 5% 1/4W	
R1373	1-249-426-11	CARBON 5.6K 5% 1/4W	
**********			
	*A-1245-452-A	F BOARD, COMPLETE (KV-27XBR10 ONLY)	
		**********	
	*A-1245-453-A	F BOARD, COMPLETE (KV-27XBR60 ONLY)	
		**********	
	*1-506-348-99	PIN, CONNECTOR 3P	
	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
	1-533-127-00	FUSE CLIP	
	*1-533-189-11	HOLDER, FUSE	
	*1-559-991-21	CONNECTOR ASSY 1P	
	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
	*1-564-505-11	PLUG, CONNECTOR 2P	
	*1-564-506-11	PLUG, CONNECTOR 3P	
	*1-564-508-11	PLUG, CONNECTOR 5P	
	*1-565-514-11	SOCKET, CONNECTOR 2P	
	*1-568-378-21	PIN, CONNECTOR 3P	
	*4-341-752-01	EYELET (EY1,EY2,EY3,EY4,EY5,EY6,EY7)	
		<CAPACITOR>	
C601	⚠ 1-136-311-51	FILM 0.47MF 20% 125V	
C603	1-108-391-12	MYLAR 0.15MF 10% 100V	
C604	1-101-821-00	CERAMIC 0.0022MF 500V	
C605	⚠ 1-162-576-51	CERAMIC 0.001MF 10% 400V	
C606	⚠ 1-161-953-51	CERAMIC 0.0047MF 20% 400V	
C607	1-162-599-12	CERAMIC 0.0047MF 20% 400V	
C610	1-124-477-11	ELECT 47MF 20% 16V	
C611	1-123-333-00	ELECT 100MF 20% 25V	
C616	⚠ 1-136-311-51	FILM 0.47MF 20% 125V	
C617	1-101-821-00	CERAMIC 0.0022MF 500V	
C618	1-124-477-11	ELECT 47MF 20% 16V	
C622	1-125-538-11	ELECT(BLOCK) 1000MF 20% 200V	
C650	1-161-830-00	CERAMIC 0.0047MF 500V	
C651	1-124-799-11	ELECT 2.2MF 20% 160V	
C652	1-124-122-11	ELECT 100MF 20% 50V	
C653	1-102-244-00	CERAMIC 220PF 10% 500V	
C654	1-124-126-00	ELECT 47MF 20% 25V	
C655	1-136-173-00	FILM 0.47MF 5% 50V	
C656	1-106-383-00	MYLAR 0.047MF 10% 100V	
C657	1-136-601-11	FILM 0.01MF 10% 630V	
C658	1-162-114-00	CERAMIC 0.0047MF 2KV	
C660	1-162-599-12	CERAMIC 0.0047MF 20% 400V	
C661	1-102-125-00	CERAMIC 0.0047MF 10% 50V	
C663	1-124-618-11	ELECT 2200MF 20% 35V	
C664	1-126-103-11	ELECT 470MF 20% 16V	
C665	1-124-557-11	ELECT 1000MF 20% 25V	
C666	1-125-564-11	ELECT(BLOCK) 1000MF 20% 160V	
C667	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C668	1-162-116-00	CERAMIC 680PF 10% 2KV	
C672	1-123-333-00	ELECT 100MF 20% 25V	
C673	1-102-129-00	CERAMIC 0.01MF 10% 50V	
C674	1-124-126-00	ELECT 47MF 20% 16V	
		<DIODE>	
D601	⚠ 8-719-305-07	DIODE RBV-406H	
D602	8-719-911-55	DIODE U05G	
D603	8-719-911-55	DIODE U05G	
D604	8-719-911-19	DIODE 1SS119	
D605	8-719-911-55	DIODE U05G	
D607	8-719-911-19	DIODE 1SS119	
D651	8-719-911-19	DIODE 1SS119	
D652	8-719-300-33	DIODE RU-3AM	
D653	8-719-311-31	DIODE RU-1P	
D657	8-719-500-67	DIODE D5KC40H	
D658	8-719-981-00	DIODE ERC81-004	
D659	8-719-500-41	DIODE D8LCA20	
D660	8-719-312-10	DIODE RU4AM-K1	
		<FUSE>	
F601	⚠ 1-532-748-11	FUSE, GLASS TUBE 6.3A/125V	
		<FERRITE BEAD INDUCTOR>	
FB655	1-410-397-21	FERRITE BEAD INDUCTOR	
FB658	1-410-396-41	FERRITE BEAD INDUCTOR	
FB659	1-410-397-21	FERRITE BEAD INDUCTOR	
FB660	1-410-396-41	FERRITE BEAD INDUCTOR	
FB662	1-410-397-21	FERRITE BEAD INDUCTOR	
FB663	1-410-397-21	FERRITE BEAD INDUCTOR	
FB664	1-410-397-21	FERRITE BEAD INDUCTOR	
		<IC>	
IC651	⚠ 8-749-920-81	IC STR-S6301A	
	*4-363-404-00	HOLDER, IC; IC651	
	4-393-406-01	SHEET (R), RADIATION; IC651	
IC652	8-719-156-73	DIODE PS2501-1LB	
IC653	⚠ 8-749-920-62	IC SE-135NS	
IC654	⚠ 8-749-920-61	IC SE-135N	
		<COIL>	
L601	1-459-104-00	COIL,DUST CORE	
L657	1-459-155-00	COIL (WITH CORE) 45UH	
L658	1-459-155-00	COIL (WITH CORE) 45UH	
L659	1-459-407-00	COIL, FERRITE CHOKE	
		<TRANSISTOR>	
Q602	8-729-255-12	TRANSISTOR 2SC2551	
Q603	8-729-200-17	TRANSISTOR 2SA1091	
Q651	8-729-140-96	TRANSISTOR 2SD774-34	
Q652	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q653	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q654	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		<RESISTOR>	
R601	⚠ 1-202-723-51	SOLID 2.2M 10% 1/2W	
R602	⚠ 1-205-798-11	WIREWOUND 1.5 5% 20W F	
R603	1-215-885-00	METAL OXIDE 68 5% 2W F	
R605	⚠ 1-202-723-51	SOLID 2.2M 10% 1/2W	
R606	1-215-885-00	METAL OXIDE 68 5% 2W F	
R607	1-249-421-11	CARBON 2.2K 5% 1/4W	
R608	1-247-887-00	CARBON 220K 5% 1/4W	
R609	1-249-417-11	CARBON 1K 5% 1/4W	
R611	1-207-645-00	WIREWOUND 0.47 10% 3W F	
R612	1-249-417-11	CARBON 1K 5% 1/4W F	
R613	1-249-441-11	CARBON 100K 5% 1/4W	
R614	1-249-429-11	CARBON 10K 5% 1/4W	

F A

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R615	1-247-895-00	CARBON	470K	5%	1/4W	
R619	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R620	1-216-444-11	METAL OXIDE	82K	5%	1W	F
R621	1-249-429-11	CARBON	10K	5%	1/4W	
R622	1-249-423-11	CARBON	3.3K	5%	1/4W	
R623	1-216-457-00	METAL OXIDE	1.2K	5%	2W	F
R624	1-216-458-11	METAL OXIDE	1.8K	5%	2W	F
R651	1-207-612-00	WIREWOUND	0.1	10%	2W	F
R652	1-207-612-00	WIREWOUND	0.1	10%	2W	F
R653	1-215-893-11	METAL OXIDE	1.5K	5%	2W	F
R654	1-205-945-11	WIREWOUND	33	10%	7W	F
R655	1-202-843-11	SOLID	270K	10%	1/2W	
R660	1-249-414-11	CARBON	560	5%	1/4W	F
R661	1-249-413-11	CARBON	470	5%	1/4W	
R662	1-249-467-11	CARBON	68K	5%	1/4W	F
R663	1-247-706-11	CARBON	330	5%	1/4W	F
R664	1-249-425-11	CARBON	4.7K	5%	1/4W	
R665	1-249-417-11	CARBON	1K	5%	1/4W	
R666	1-249-425-11	CARBON	4.7K	5%	1/4W	
R667	1-249-417-11	CARBON	1K	5%	1/4W	
R668	1-249-429-11	CARBON	10K	5%	1/4W	
R669	1-249-417-11	CARBON	1K	5%	1/4W	
R670	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R671	1-202-730-00	SOLID	8.2M	10%	1/2W	
R672	1-249-455-11	CARBON	4.7	5%	1/4W	F
R675	1-215-881-11	METAL OXIDE	15	5%	2W	F
R676	1-216-446-00	METAL OXIDE	18	5%	2W	F
R690	1-205-945-11	WIREWOUND	33	10%	7W	F
R691	1-216-468-11	METAL OXIDE	82K	5%	2W	F
R692	1-216-468-11	METAL OXIDE	82K	5%	2W	F
R693	1-216-468-11	METAL OXIDE	82K	5%	2W	F
R694	1-216-468-11	METAL OXIDE	82K	5%	2W	F
R695	1-216-468-11	METAL OXIDE	82K	5%	2W	F
R696	1-207-682-00	WIREWOUND	47	10%	5W	F

<RELAY>

RY601	⚠1-515-601-11	RELAY	

<TRANSFORMER>

T601	⚠1-424-220-11	TRANSFORMER, LINE FILTER	
T602	⚠1-424-205-11	TRANSFORMER, LINE FILTER	
T603	⚠1-448-916-11	TRANSFORMER, POWER	
T651	⚠1-449-607-11	TRANSFORMER	

<THERMISTOR>

THP601	⚠1-808-081-22	THERMISTOR, POSITIVE	

****

	*A-1296-567-A	A BOARD, COMPLETE
		**********
	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
	*1-560-124-00	PLUG, CONNECTOR (2.5MM PITCH)
	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P
	*1-564-505-11	PLUG, CONNECTOR 2P
	*1-564-507-11	PLUG, CONNECTOR 4P
	*1-564-508-11	PLUG, CONNECTOR 5P
	*1-564-509-11	PLUG, CONNECTOR 6P
	*1-564-511-11	PLUG, CONNECTOR 8P
	*1-564-512-11	PLUG, CONNECTOR 9P
	*1-564-513-11	PLUG, CONNECTOR 10P
	*1-565-509-11	CONNECTOR, BOARD TO BOARD 18P
	*1-568-371-11	PIN, CONNECTOR (PC BOARD) 15P
	*4-341-751-01	EYELET
	*4-341-752-01	EYELET (EY1,EY2,EY3,EY4,EY5)

<CONNECTOR>

A33	*1-564-511-11	PLUG, CONNECTOR 8P

<CAPACITOR>

C101	1-123-875-11	ELECT	10MF	20%	50V
C102	1-126-233-11	ELECT	22MF	20%	25V
C103	1-124-360-00	ELECT	1000MF	20%	16V
C104	1-124-473-11	ELECT	1000MF	20%	10V
C106	1-136-153-00	FILM	0.01MF	5%	50V
C107	1-119-160-00	ELECT	470MF		10V
C108	1-123-875-11	ELECT	10MF	20%	50V
C109	1-102-973-00	CERAMIC	100PF	5%	50V
C111	1-102-978-00	CERAMIC	220PF	5%	50V
C112	1-136-161-00	FILM	0.047MF	5%	50V
C113	1-124-499-11	ELECT	1MF	20%	50V
C114	1-102-978-00	CERAMIC	220PF	5%	50V
C115	1-101-006-00	CERAMIC	0.047MF		50V
C116	1-102-973-00	CERAMIC	100PF	5%	50V
C119	1-123-875-11	ELECT	10MF	20%	50V
C120	1-124-360-00	ELECT	1000MF	20%	16V
C121	1-136-165-00	FILM	0.1MF	5%	50V
C124	1-130-728-00	FILM	0.0022MF	5%	50V
C125	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C126	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C128	1-124-477-11	ELECT	47MF	20%	16V
C129	1-136-161-00	FILM	0.047MF	5%	50V
C199	1-124-477-11	ELECT	47MF	20%	16V
C201	1-124-478-11	ELECT	100MF	20%	25V
C202	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C203	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C301	1-124-120-11	ELECT	220MF	20%	16V
C302	1-124-234-00	ELECT	22MF	20%	16V
C303	1-136-153-00	FILM	0.01MF	5%	50V
C304	1-124-499-11	ELECT	1MF	20%	50V
C305	1-124-465-00	ELECT	0.47MF	20%	50V
C306	1-124-234-00	ELECT	22MF	20%	16V
C307	1-102-978-00	CERAMIC	220PF	5%	50V
C308	1-102-965-00	CERAMIC	39PF	5%	50V

A

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C309	1-136-165-00	FILM	0.1MF	5%	50V
C310	1-136-165-00	FILM	0.1MF	5%	50V
C311	1-136-165-00	FILM	0.1MF	5%	50V
C312	1-136-169-00	FILM	0.22MF	5%	50V
C313	1-124-499-11	ELECT	1MF	20%	50V
C315	1-136-158-00	FILM	0.027MF	5%	50V
C316	1-102-973-00	CERAMIC	100PF	5%	50V
C317	1-136-169-00	FILM	0.22MF	5%	50V
C318	1-136-169-00	FILM	0.22MF	5%	50V
C319	1-102-980-00	CERAMIC	270PF	5%	50V
C320	1-124-499-11	ELECT	1MF	20%	50V
C321	1-136-153-00	FILM	0.01MF	5%	50V
C322	1-124-499-11	ELECT	1MF	20%	50V
C323	1-124-443-00	ELECT	100MF	20%	10V
C324	1-102-114-00	CERAMIC	470PF	10%	50V
C325	1-102-114-00	CERAMIC	470PF	10%	50V
C326	1-124-499-11	ELECT	1MF	20%	50V
C327	1-130-479-00	MYLAR	0.0047MF	5%	50V
C328	1-123-875-11	ELECT	10MF	20%	50V
C329	1-124-799-11	ELECT	2.2MF	20%	160V
C331	1-102-112-00	CERAMIC	330PF	10%	50V
C332	1-136-157-00	FILM	0.022MF	5%	50V
C333	1-124-499-11	ELECT	1MF	20%	50V
C334	1-136-161-00	FILM	0.047MF	5%	50V
C335	1-130-471-00	MYLAR	0.001MF	5%	50V
C338	1-126-233-11	ELECT	22MF	20%	50V
C339	1-123-875-11	ELECT	10MF	20%	50V
C340	1-124-902-00	ELECT	0.47MF	20%	50V
C342	1-161-377-00	CERAMIC	0.0047MF	30%	50V
C343	1-119-363-00	ELECT	4.7MF		25V
C344	1-126-176-11	ELECT	220MF	20%	10V
C351	1-136-169-00	FILM	0.22MF	5%	50V
C352	1-136-165-00	FILM	0.1MF	5%	50V
C353	1-124-902-00	ELECT	0.47MF	20%	50V
C382	1-124-234-00	ELECT	22MF	20%	16V
C500	1-130-475-00	MYLAR	0.0022MF	5%	50V
C501	1-124-122-11	ELECT	100MF	20%	50V
C502	1-124-557-11	ELECT	1000MF	20%	25V
C503	1-124-477-11	ELECT	47MF	20%	25V
C504	1-106-216-00	MYLAR	0.068MF	10%	100V
C505	1-106-383-00	MYLAR	0.047MF	10%	100V
C508	1-136-161-00	FILM	0.047MF	5%	50V
C509	1-106-387-00	MYLAR	0.068MF	10%	200V
C510	1-102-228-00	CERAMIC	470PF	10%	500V
C511	1-124-494-00	ELECT	33MF		160V
C512	1-124-046-00	ELECT	10MF	20%	160V
C513	1-124-477-11	ELECT	47MF	20%	25V
C514	1-124-557-11	ELECT	1000MF	20%	25V
C515	1-162-114-00	CERAMIC	0.0047MF		2KV
C516	1-162-116-00	CERAMIC	680PF	10%	2KV
C517	1-162-116-00	CERAMIC	680PF	10%	2KV
C518	1-106-359-00	MYLAR	0.0047MF	10%	200V
C519 ⚠	1-136-897-11	FILM	0.021MF	3%	2KV
C520	1-162-116-00	CERAMIC	680PF	10%	2KV
C521	1-162-558-11	CERAMIC	100PF	10%	2KV
C522 ⚠	1-136-896-51	FILM	0.091MF	5%	630V
C523	1-102-244-00	CERAMIC	220PF	10%	500V
C524	1-106-383-00	MYLAR	0.047MF	10%	200V
C525	1-124-902-00	ELECT	0.47MF	20%	50V
C526	1-102-244-00	CERAMIC	220PF	10%	500V
C527	1-162-318-11	CERAMIC	0.001MF	10%	500V
C528	1-102-030-00	CERAMIC	330PF	10%	500V
C529	1-136-109-00	FILM	0.68MF	5%	200V
C530	1-123-947-00	ELECT	10MF	20%	250V
C531	1-130-475-00	MYLAR	0.0022MF	5%	50V
C532	1-130-475-00	MYLAR	0.0022MF	5%	50V
C533	1-130-471-00	MYLAR	0.001MF	5%	50V
C534	1-124-477-11	ELECT	47MF	20%	25V
C535	1-123-948-00	ELECT	22MF	20%	250V
C536	1-136-559-11	FILM	0.0047MF	10%	630V
C537	1-124-927-11	ELECT	4.7MF	20%	50V
C541	1-106-383-00	MYLAR	0.047MF		200V
C543	1-136-828-11	FILM	1.8MF	5%	200V
C544	1-106-343-00	MYLAR	0.001MF	10%	100V
C545	1-124-910-11	ELECT	47MF	20%	50V
C546	1-102-228-00	CERAMIC	470PF	10%	500V
C548	1-124-927-11	ELECT	4.7MF	20%	50V
C549	1-124-477-11	ELECT	47MF	20%	25V
C550	1-136-111-00	FILM	1MF	5%	200V
C551	1-124-927-11	ELECT	4.7MF	20%	50V
C552	1-102-228-00	CERAMIC	470PF	10%	500V
C553	1-123-875-11	ELECT	10MF	20%	50V
C555	1-123-875-11	ELECT	10MF	20%	50V
C556	1-123-932-00	ELECT	4.7MF	20%	160V
C557	1-102-114-00	CERAMIC	470PF	10%	50V
C558	1-136-161-00	FILM	0.047MF	5%	50V
C559	1-136-165-00	FILM	0.1MF	5%	50V
C581	1-124-478-11	ELECT	100MF	20%	25V
C582	1-124-478-11	ELECT	100MF	20%	25V
C583	1-124-478-11	ELECT	100MF	20%	25V
C584	1-124-478-11	ELECT	100MF	20%	25V
C585	1-124-478-11	ELECT	100MF	20%	25V
C586	1-124-478-11	ELECT	100MF	20%	25V
C611 ⚠	1-102-125-91	CERAMIC	0.0047MF	10%	50V
C612 ⚠	1-102-125-91	CERAMIC	0.0047MF	10%	50V
C613	1-124-480-11	ELECT	470MF	20%	25V
C614	1-124-480-11	ELECT	470MF	20%	25V
C619	1-124-478-11	ELECT	100MF	20%	25V
C620	1-123-875-11	ELECT	10MF	20%	50V
C640	1-136-165-00	FILM	0.1MF	5%	50V
C641	1-101-006-00	CERAMIC	0.047MF		50V
C642	1-102-129-00	CERAMIC	0.01MF	10%	50V
C643	1-101-005-00	CERAMIC	0.022MF		50V
C644	1-101-005-00	CERAMIC	0.022MF		50V
C1701	1-102-976-00	CERAMIC	180PF	5%	50V
C1702	1-102-973-00	CERAMIC	100PF	5%	50V
C1703	1-124-477-11	ELECT	47MF	20%	16V

<NETWORK>

CP102	1-236-301-11	NETWORK, C	
CP103	1-236-491-21	NETWORK, RES, THICK FILM	
CP105	1-236-479-11	NETWORK, C	
CP106	1-236-479-11	NETWORK, C	
CP108	1-236-358-21	NETWORK, RES	
CP109	1-236-358-21	NETWORK, RES	
CP110	1-236-294-21	NETWORK, RES	

<DIODE>

D101	8-719-110-78	DIODE RD33ES-B2	
D102	8-719-911-19	DIODE 1SS119	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-974-81	DIODE 1SV113	
D106	8-719-911-19	DIODE 1SS119	
D112	8-719-911-19	DIODE 1SS119	

A

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D114	8-719-911-19	DIODE 1SS119	
D301	8-719-110-48	DIODE RD18ES-B1	
D302	8-719-109-89	DIODE RD5.6ES-B2	
D303	8-719-109-84	DIODE RD5.1ES-B1	
D304	8-719-109-96	DIODE RD6.8ES-B1	
D306	8-719-911-19	DIODE 1SS119	
D307	8-719-911-19	DIODE 1SS119	
D308	8-719-911-19	DIODE 1SS119	
D350	8-719-109-89	DIODE RD5.6ES-B2	
D500	8-719-911-55	DIODE U05G	
D501	8-719-300-33	DIODE RU-3AM	
D502	8-719-902-85	DIODE RG3G-5007L	
D503	8-719-901-58	DIODE RGP15J	
D504	8-719-500-26	DIODE D5KD20H	
D505	8-719-300-65	DIODE ES1F	
D506	8-719-911-19	DIODE 1SS119	
D507	8-719-300-33	DIODE RU-3AM	
D508	8-719-911-19	DIODE 1SS119	
D509	8-719-911-19	DIODE 1SS119	
D511	8-719-902-85	DIODE RG3G-5007L	
D512	8-719-311-87	DIODE FMS-3FU	
	*4-393-401-01	SPRING; D512	
D513	8-719-911-19	DIODE 1SS119	
D514	8-719-911-19	DIODE 1SS119	
D515	8-719-911-19	DIODE 1SS119	
D531	8-719-911-19	DIODE 1SS119	
D533	8-719-109-81	DIODE RD4.7ES-B2	
D536	8-719-300-33	DIODE RU-3AM	
D537	8-719-911-19	DIODE 1SS119	
D539	8-719-302-43	DIODE EL1Z	
D602	8-719-511-40	DIODE S1VB40	
D640	8-719-911-19	DIODE 1SS119	
		<IC>	
IC101	8-759-632-89	IC M37100M8-717SP	
IC102	8-759-972-43	IC PCD8582	
IC103	8-759-403-44	IC MN1280-S	
IC301	8-752-035-52	IC CXA1313S	
IC500	8-759-980-58	IC TDA8172	
	*4-393-401-01	SPRING; IC500	
	4-393-405-01	SHEET (V), RADIATION; IC500	
IC531	8-759-103-93	IC UPC393C	
IC581	8-759-142-04	IC UPC7893HF	
	*4-393-401-01	SPRING; IC581	
IC582	8-759-142-04	IC UPC7893HF	
	*4-368-683-01	SPRING; IC582	
IC601	8-759-112-06	IC UPC78N05H	
IC901	8-759-604-29	IC M5F7805	
IC1701	8-759-978-66	IC MB88201-638L	
		<IF BLOCK>	
IF201	1-464-755-21	IF BLOCK (IFE-450A)	
		<COIL>	
L101	1-410-521-11	INDUCTOR 100UH	
L102	1-408-415-00	INDUCTOR 33UH	
L201	1-408-408-00	INDUCTOR 8.2UH	
L500	1-422-613-11	COIL, AIR CORE	
L501	1-459-148-00	COIL	
L503	1-422-613-11	COIL, AIR CORE	
L505	1-410-669-31	INDUCTOR 33UH	
L506	1-408-225-00	INDUCTOR 3.3UH	
L507	1-408-235-00	INDUCTOR 2.2MMH	
L508 ⚠	1-424-210-11	COIL, PIN MODULATION	
L509	1-422-613-11	COIL, AIR CORE	
L511	1-408-225-00	INDUCTOR 3.3UH	
L512 ⚠	1-459-973-21	COIL, HORIZONTAL LINEARITY	
L513	1-408-698-00	INDUCTOR 8.2UH	
L514	1-408-698-00	INDUCTOR 8.2UH	
L1701	1-408-413-00	INDUCTOR 22UH	
		<NEON LAMP>	
NL501	1-519-108-99	LAMP, NEON	
		<MODULE>	
PM501 ⚠	1-808-690-11	MODULE, PROTECTOR (PM-14)	
		<TRANSISTOR>	
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q102	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q104	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q108	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q170	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q301	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q302	8-729-900-89	TRANSISTOR DTC244ES	
Q303	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q304	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q306	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q307	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q308	8-729-900-89	TRANSISTOR DTC244ES	
Q310	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q311	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q312	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q313	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q314	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q351	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q352	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q502	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q503	8-729-304-50	TRANSISTOR 2SD1941-06	
	*4-393-401-01	SPRING; Q503	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q505	8-729-208-72	TRANSISTOR 2SC3298B-Y	
Q506	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		<RESISTOR>	
R101	1-249-425-11	CARBON 4.7K 5% 1/4W	
R102	1-249-416-11	CARBON 820 5% 1/4W	
R103	1-215-896-00	METAL OXIDE 4.7K 5% 2W	F
R105	1-249-429-11	CARBON 10K 5% 1/4W	
R106	1-249-421-11	CARBON 2.2K 5% 1/4W	
R107	1-249-417-11	CARBON 1K 5% 1/4W	
R108	1-249-421-11	CARBON 2.2K 5% 1/4W	
R109	1-249-421-11	CARBON 2.2K 5% 1/4W	
R110	1-249-421-11	CARBON 2.2K 5% 1/4W	
R111	1-249-421-11	CARBON 2.2K 5% 1/4W	
R112	1-249-421-11	CARBON 2.2K 5% 1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R113	1-249-421-11	CARBON	2.2K	5%	1/4W	
R114	1-249-421-11	CARBON	2.2K	5%	1/4W	
R115	1-249-421-11	CARBON	2.2K	5%	1/4W	
R116	1-249-409-11	CARBON	220	5%	1/4W	
R117	1-249-409-11	CARBON	220	5%	1/4W	
R118	1-249-409-11	CARBON	220	5%	1/4W	
R119	1-249-431-11	CARBON	15K	5%	1/4W	
R120	1-249-421-11	CARBON	2.2K	5%	1/4W	
R121	1-249-421-11	CARBON	2.2K	5%	1/4W	
R122	1-249-421-11	CARBON	2.2K	5%	1/4W	
R123	1-249-421-11	CARBON	2.2K	5%	1/4W	
R124	1-249-421-11	CARBON	2.2K	5%	1/4W	
R125	1-249-421-11	CARBON	2.2K	5%	1/4W	
R126	1-249-421-11	CARBON	2.2K	5%	1/4W	
R127	1-249-413-11	CARBON	470	5%	1/4W	
R128	1-249-425-11	CARBON	4.7K	5%	1/4W	
R129	1-249-425-11	CARBON	4.7K	5%	1/4W	
R130	1-249-437-11	CARBON	47K	5%	1/4W	
R131	1-249-429-11	CARBON	10K	5%	1/4W	
R133	1-249-421-11	CARBON	2.2K	5%	1/4W	
R134	1-249-421-11	CARBON	2.2K	5%	1/4W	
R135	1-249-429-11	CARBON	10K	5%	1/4W	
R136	1-249-429-11	CARBON	10K	5%	1/4W	
R137	1-249-409-11	CARBON	220	5%	1/4W	
R138	1-249-425-11	CARBON	4.7K	5%	1/4W	
R139	1-249-421-11	CARBON	2.2K	5%	1/4W	
R140	1-249-439-11	CARBON	68K	5%	1/4W	
R141	1-247-903-00	CARBON	1M	5%	1/4W	
R142	1-249-437-11	CARBON	47K	5%	1/4W	
R143	1-249-437-11	CARBON	47K	5%	1/4W	
R144	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R145	1-249-429-11	CARBON	10K	5%	1/4W	
R146	1-247-903-00	CARBON	1M	5%	1/4W	
R147	1-249-429-11	CARBON	10K	5%	1/4W	
R148	1-249-429-11	CARBON	10K	5%	1/4W	
R149	1-215-896-00	METAL OXIDE	4.7K	5%	2W	F
R150	1-249-441-11	CARBON	100K	5%	1/4W	
R151	1-249-429-11	CARBON	10K	5%	1/4W	
R152	1-249-425-11	CARBON	4.7K	5%	1/4W	
R153	1-249-429-11	CARBON	10K	5%	1/4W	
R154	1-249-429-11	CARBON	10K	5%	1/4W	
R156	1-249-409-11	CARBON	220	5%	1/4W	
R158	1-249-429-11	CARBON	10K	5%	1/4W	
R159	1-249-437-11	CARBON	47K	5%	1/4W	
R160	1-247-887-00	CARBON	220K	5%	1/4W	
R161	1-249-409-11	CARBON	220	5%	1/4W	
R162	1-249-409-11	CARBON	220	5%	1/4W	
R163	1-249-421-11	CARBON	2.2K	5%	1/4W	
R164	1-249-409-11	CARBON	220	5%	1/4W	
R165	1-249-409-11	CARBON	220	5%	1/4W	
R166	1-249-409-11	CARBON	220	5%	1/4W	
R167	1-249-429-11	CARBON	10K	5%	1/4W	
R168	1-249-429-11	CARBON	10K	5%	1/4W	
R169	1-249-429-11	CARBON	10K	5%	1/4W	
R170	1-249-429-11	CARBON	10K	5%	1/4W	
R171	1-249-421-11	CARBON	2.2K	5%	1/4W	
R172	1-249-429-11	CARBON	10K	5%	1/4W	
R173	1-249-421-11	CARBON	2.2K	5%	1/4W	
R174	1-249-421-11	CARBON	2.2K	5%	1/4W	
R175	1-249-421-11	CARBON	2.2K	5%	1/4W	
R176	1-249-421-11	CARBON	2.2K	5%	1/4W	
R177	1-249-409-11	CARBON	220	5%	1/4W	
R178	1-249-413-11	CARBON	470	5%	1/4W	
R179	1-249-409-11	CARBON	220	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R181	1-249-413-11	CARBON	470	5%	1/4W	
R182	1-249-421-11	CARBON	2.2K	5%	1/4W	
R183	1-249-421-11	CARBON	2.2K	5%	1/4W	
R184	1-249-417-11	CARBON	1K	5%	1/4W	
R185	1-249-417-11	CARBON	1K	5%	1/4W	
R186	1-249-433-11	CARBON	22K	5%	1/4W	
R187	1-249-421-11	CARBON	2.2K	5%	1/4W	
R188	1-249-425-11	CARBON	4.7K	5%	1/4W	
R189	1-249-433-11	CARBON	22K	5%	1/4W	
R190	1-249-421-11	CARBON	2.2K	5%	1/4W	
R191	1-249-421-11	CARBON	2.2K	5%	1/4W	
R192	1-249-421-11	CARBON	2.2K	5%	1/4W	
R194	1-249-417-11	CARBON	1K	5%	1/4W	
R195	1-249-421-11	CARBON	2.2K	5%	1/4W	
R196	1-249-421-11	CARBON	2.2K	5%	1/4W	
R197	1-259-884-11	CARBON	4.7M	5%	1/4W	
R198	1-249-417-11	CARBON	1K	5%	1/4W	
R200	1-249-417-11	CARBON	1K	5%	1/4W	
R201	1-249-425-11	CARBON	4.7K	5%	1/4W	
R202	1-249-429-11	CARBON	10K	5%	1/4W	
R203	1-249-435-11	CARBON	33K	5%	1/4W	
R204	1-249-435-11	CARBON	33K	5%	1/4W	
R205	1-249-411-11	CARBON	330	5%	1/4W	
R208	1-216-423-11	METAL OXIDE	27	5%	1W	F
R209	1-249-417-11	CARBON	1K	5%	1/4W	
R212	1-249-417-11	CARBON	1K	5%	1/4W	
R301	1-215-448-00	METAL	13K	1%	1/6W	
R304	1-249-432-11	CARBON	18K	5%	1/4W	
R305	1-247-899-11	CARBON	680K	5%	1/4W	
R306	1-215-421-00	METAL	1K	1%	1/6W	
R307	1-249-405-11	CARBON	100	5%	1/4W	
R308	1-249-405-11	CARBON	100	5%	1/4W	
R309	1-249-405-11	CARBON	100	5%	1/4W	
R310	1-249-409-11	CARBON	220	5%	1/4W	
R311	1-249-409-11	CARBON	220	5%	1/4W	
R312	1-249-409-11	CARBON	220	5%	1/4W	
R313	1-249-409-11	CARBON	220	5%	1/4W	
R314	1-249-409-11	CARBON	220	5%	1/4W	
R315	1-249-417-11	CARBON	1K	5%	1/4W	
R316	1-249-425-11	CARBON	4.7K	5%	1/4W	
R317	1-249-429-11	CARBON	10K	5%	1/4W	
R320	1-249-429-11	CARBON	10K	5%	1/4W	
R321	1-249-441-11	CARBON	100K	5%	1/4W	
R322	1-249-428-11	CARBON	8.2K	5%	1/4W	
R323	1-215-457-00	METAL	33K	1%	1/6W	
R324	1-249-405-11	CARBON	100	5%	1/4W	
R325	1-249-414-11	CARBON	560	5%	1/4W	
R326	1-249-421-11	CARBON	2.2K	5%	1/4W	
R327	1-249-417-11	CARBON	1K	5%	1/4W	
R328	1-249-413-11	CARBON	470	5%	1/4W	
R329	1-249-425-11	CARBON	4.7K	5%	1/4W	
R330	1-249-421-11	CARBON	2.2K	5%	1/4W	
R332	1-247-895-00	CARBON	470K	5%	1/4W	
R333	1-249-409-11	CARBON	220	5%	1/4W	
R334	1-249-420-11	CARBON	1.8K	5%	1/4W	
R335	1-249-441-11	CARBON	100K	5%	1/4W	
R336	1-249-405-11	CARBON	100	5%	1/4W	
R337	1-249-438-11	CARBON	56K	5%	1/4W	
R339	1-249-411-11	CARBON	330	5%	1/4W	
R340	1-249-405-11	CARBON	100	5%	1/4W	
R341	1-249-405-11	CARBON	100	5%	1/4W	
R342	1-249-405-11	CARBON	100	5%	1/4W	
R343	1-249-405-11	CARBON	100	5%	1/4W	

A

- The components identified by ⊠ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R344	1-249-405-11	CARBON	100	5%	1/4W	
R345	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R346	1-249-413-11	CARBON	470	5%	1/4W	
R347	1-259-884-11	CARBON	4.7M	5%	1/4W	
R349	1-249-409-11	CARBON	220	5%	1/4W	
R350	1-249-423-11	CARBON	3.3K	5%	1/4W	
R351	1-249-441-11	CARBON	100K	5%	1/4W	
R352	1-249-441-11	CARBON	100K	5%	1/4W	
R353	1-249-441-11	CARBON	100K	5%	1/4W	
R354	1-249-433-11	CARBON	22K	5%	1/4W	
R355	1-249-433-11	CARBON	22K	5%	1/4W	
R356	1-249-433-11	CARBON	22K	5%	1/4W	
R357	1-249-437-11	CARBON	47K	5%	1/4W	
R358	1-247-891-00	CARBON	330K	5%	1/4W	
R359	1-249-433-11	CARBON	22K	5%	1/4W	
R360	1-249-433-11	CARBON	22K	5%	1/4W	
R361	1-249-431-11	CARBON	15K	5%	1/4W	
R362	1-249-421-11	CARBON	2.2K	5%	1/4W	
R363	1-249-421-11	CARBON	2.2K	5%	1/4W	
R364	1-249-405-11	CARBON	100	5%	1/4W	
R365	1-249-405-11	CARBON	100	5%	1/4W	
R366	1-249-437-11	CARBON	47K	5%	1/4W	
R367	1-249-417-11	CARBON	1K	5%	1/4W	
R373	1-249-417-11	CARBON	1K	5%	1/4W	
R374	1-249-428-11	CARBON	8.2K	5%	1/4W	
R375	1-249-421-11	CARBON	2.2K	5%	1/4W	
R376	1-249-425-11	CARBON	4.7K	5%	1/4W	
R377	1-249-439-11	CARBON	68K	5%	1/4W	
R378	1-249-427-11	CARBON	6.8K	5%	1/4W	
R379	1-249-421-11	CARBON	2.2K	5%	1/4W	
R380	1-249-424-11	CARBON	3.9K	5%	1/4W	
R381	1-249-421-11	CARBON	2.2K	5%	1/4W	
R382	1-249-413-11	CARBON	470	5%	1/4W	
R383	1-249-429-11	CARBON	10K	5%	1/4W	
R385	1-247-903-00	CARBON	1M	5%	1/4W	
R386	1-249-417-11	CARBON	1K	5%	1/4W	
R500	1-249-433-11	CARBON	22K	5%	1/4W	
R501	1-215-459-00	METAL	39K	1%	1/6W	
R502	1-216-371-00	METAL OXIDE	1.5	5%	2W	F
R503	1-249-437-11	CARBON	47K	5%	1/4W	
R504	1-215-446-00	METAL	11K	1%	1/6W	
R505	1-216-453-00	METAL OXIDE	270	5%	2W	F
R507	1-249-439-11	CARBON	68K	5%	1/4W	
R510	1-249-393-11	CARBON	10	5%	1/4W	F
R511	1-249-436-11	CARBON	39K	5%	1/4W	
R513	1-249-425-11	CARBON	4.7K	5%	1/4W	
R516 ⚠	1-249-443-51	CARBON	0.47	5%	1/4W	F
R517 ⚠	1-216-355-91	METAL OXIDE	3.3	5%	1W	F
R518	1-249-482-11	CARBON	4.7	5%	1/2W	F
R519 ⚠	1-215-871-91	METAL OXIDE	2.2K	5%	1W	F
R521 ⚠	1-249-465-91	CARBON	47K	5%	1/4W	F
R522	1-215-868-00	METAL OXIDE	680	5%	1W	F
R523	1-216-342-11	METAL OXIDE	0.27	5%	1W	F
R524	1-215-890-11	METAL OXIDE	470	5%	2W	F
R528	1-215-880-00	METAL OXIDE	10	5%	2W	F
R529	1-249-426-11	CARBON	5.6K	5%	1/4W	
R530	1-247-887-00	CARBON	220K	5%	1/4W	
R531	1-216-456-00	METAL OXIDE	820	5%	2W	F
R533	1-249-429-11	CARBON	10K	5%	1/4W	
R534	1-249-437-11	CARBON	47K	5%	1/4W	
R535	1-249-432-11	CARBON	18K	5%	1/4W	
R536	1-247-889-00	CARBON	270K	5%	1/4W	
R537	1-247-883-00	CARBON	150K	5%	1/4W	
R538	1-247-883-00	CARBON	150K	5%	1/4W	
R539	1-216-456-00	METAL OXIDE	820	5%	2W	F
R541	1-215-437-00	METAL	4.7K	1%	1/6W	
R542	1-249-441-11	CARBON	100K	5%	1/4W	
R544	1-247-903-00	CARBON	1M	5%	1/4W	
R545	1-247-903-00	CARBON	1M	5%	1/4W	
R546	1-247-891-00	CARBON	330K	5%	1/4W	
R547	1-247-903-00	CARBON	1M	5%	1/4W	
⊠R549 ⚠		CARBON			1/4W	
R551	1-249-413-11	CARBON	470	5%	1/4W	
R552	1-249-405-11	CARBON	100	5%	1/4W	F
R553	1-249-401-11	CARBON	47	5%	1/4W	
R554	1-249-423-11	CARBON	3.3K	5%	1/4W	
R555	1-247-722-11	CARBON	5.6K	5%	1/4W	F
R556	1-249-455-11	CARBON	4.7	5%	1/4W	F
R558	1-215-890-11	METAL OXIDE	470	5%	2W	F
R559	1-216-380-11	METAL OXIDE	8.2	5%	2W	F
R560	1-247-887-00	CARBON	220K	5%	1/4W	
R561	1-249-441-11	CARBON	100K	5%	1/4W	
R562	1-247-734-11	CARBON	39	5%	1/2W	F
R563	1-215-890-11	METAL OXIDE	470	5%	2W	F
⊠R567 ⚠		CARBON			1/4W	
R568	1-249-431-11	CARBON	15K	5%	1/4W	
R569	1-249-425-11	CARBON	4.7K	5%	1/4W	
R570	1-249-439-11	CARBON	68K	5%	1/4W	
R571 ⚠	1-213-048-51	FUSIBLE	3.3	5%	1W	F
R572	1-216-377-11	METAL OXIDE	4.7	5%	2W	F
R573	1-216-377-11	METAL OXIDE	4.7	5%	2W	F
R574	1-249-409-11	CARBON	220	5%	1/4W	F
R575	1-249-405-11	CARBON	100	5%	1/4W	
R601	1-249-443-11	CARBON	0.47	5%	1/4W	F
R606	1-216-425-11	METAL OXIDE	56	5%	1W	F
R620	1-249-440-11	CARBON	82K	5%	1/4W	
R621	1-249-429-11	CARBON	10K	5%	1/4W	
R622	1-249-441-11	CARBON	100K	5%	1/4W	
R624	1-249-435-11	CARBON	33K	5%	1/4W	
R625	1-249-423-11	CARBON	3.3K	5%	1/4W	
R626	1-249-434-11	CARBON	27K	5%	1/4W	
R1701	1-249-417-11	CARBON	1K	5%	1/4W	
R1702	1-249-417-11	CARBON	1K	5%	1/4W	
R1703	1-249-417-11	CARBON	1K	5%	1/4W	
R1704	1-249-417-11	CARBON	1K	5%	1/4W	
R1705	1-249-417-11	CARBON	1K	5%	1/4W	
R1706	1-249-417-11	CARBON	1K	5%	1/4W	
R1707	1-249-417-11	CARBON	1K	5%	1/4W	
R1708	1-249-417-11	CARBON	1K	5%	1/4W	
R1709	1-249-417-11	CARBON	1K	5%	1/4W	
R1710	1-249-417-11	CARBON	1K	5%	1/4W	
R1711	1-249-417-11	CARBON	1K	5%	1/4W	
R1712	1-249-417-11	CARBON	1K	5%	1/4W	
R1713	1-249-417-11	CARBON	1K	5%	1/4W	
R1714	1-249-429-11	CARBON	10K	5%	1/4W	
R1715	1-249-429-11	CARBON	10K	5%	1/4W	

<SPARK GAP>

SG501	1-519-422-11	GAP, SPARK	

<TRANSFORMER>

T500 ⚠	1-439-455-11	TRANSFORMER ASSY, FLYBACK (NX-2300)	
T501 ⚠	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A X C

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<TUNER>				
TU101	⚠1-463-771-11	TUNER, ET (BTP-201A)				
		<CRYSTAL>				
X101	1-577-082-11	VIBRATOR, CERAMIC				
X301	1-567-505-11	OSCILLATOR, CRYSTAL				
		**********				
	*1-629-624-11	X BOARD				
		*******				
	*1-568-380-21	PIN, CONNECTOR 15P				
		<CAPACITOR>				
C251	1-124-499-11	ELECT	1MF	20%	50V	
C252	1-136-157-00	FILM	0.022MF	5%	50V	
C253	1-124-499-11	ELECT	1MF	20%	50V	
C254	1-130-309-00	FILM	0.033MF	5%	100V	
C255	1-124-499-11	ELECT	1MF	20%	50V	
C256	1-124-478-11	ELECT	100MF	20%	25V	
C257	1-124-927-11	ELECT	4.7MF	20%	50V	
C258	1-124-902-00	ELECT	0.47MF	20%	50V	
C259	1-124-499-11	ELECT	1MF	20%	50V	
C260	1-124-499-11	ELECT	1MF	20%	50V	
C261	1-124-499-11	ELECT	1MF	20%	50V	
C262	1-124-499-11	ELECT	1MF	20%	50V	
C263	1-124-499-11	ELECT	1MF	20%	50V	
C264	1-123-875-11	ELECT	10MF	20%	50V	
C265	1-136-170-00	FILM	0.27MF	5%	50V	
C266	1-123-875-11	ELECT	10MF	20%	50V	
C267	1-131-368-00	TANTALUM	3.3MF	10%	16V	
C268	1-124-499-11	ELECT	1MF	20%	50V	
C269	1-131-347-00	TANTALUM	1MF	20%	16V	
C270	1-124-499-11	ELECT	1MF	20%	50V	
C271	1-123-875-11	ELECT	10MF	20%	50V	
C272	1-124-499-11	ELECT	1MF	20%	50V	
C273	1-124-477-11	ELECT	47MF	20%	16V	
C274	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C275	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C276	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C277	1-123-875-11	ELECT	10MF	20%	50V	
C278	1-124-499-11	ELECT	1MF	20%	50V	
C280	1-123-875-11	ELECT	10MF	20%	50V	
C281	1-123-875-11	ELECT	10MF	20%	50V	
C282	1-123-875-11	ELECT	10MF	20%	50V	
C284	1-123-875-11	ELECT	10MF	20%	50V	
C285	1-136-171-00	FILM	0.33MF	5%	50V	
C286	1-136-175-00	FILM	0.68MF	5%	50V	
		<IC>				
IC251	8-752-035-54	IC CXA1264S				
		<RESISTOR>				
R251	1-249-409-11	CARBON	220	5%	1/4W	
R252	1-249-409-11	CARBON	220	5%	1/4W	
R253	1-249-409-11	CARBON	220	5%	1/4W	
R254	1-249-409-11	CARBON	220	5%	1/4W	
R255	1-249-420-11	CARBON	1.8K	5%	1/4W	
R256	1-249-405-11	CARBON	100	5%	1/4W	
R257	1-249-409-11	CARBON	220	5%	1/4W	
R258	1-249-409-11	CARBON	220	5%	1/4W	
R259	1-249-409-11	CARBON	220	5%	1/4W	
R260	1-249-409-11	CARBON	220	5%	1/4W	
R261	1-249-409-11	CARBON	220	5%	1/4W	
R262	1-249-409-11	CARBON	220	5%	1/4W	
R266	1-215-456-00	METAL	30K	1%	1/6W	
		**********				
	*A-1330-949-A	C BOARD, COMPLETE				
		**********				
	*1-506-348-99	PIN, CONNECTOR 3P				
	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P				
	*1-564-511-11	PLUG, CONNECTOR 8P				
	*4-341-751-01	EYELET (EY31,EY32,EY33)				
	*4-341-752-01	EYELET (EY28,EY29,EY34)				
	*4-379-160-01	COVER (REAR LID), CV				
	*4-379-167-01	COVER (MAIN), CV				
		<CAPACITOR>				
C701	1-162-116-00	CERAMIC	680PF	10%	2KV	
C702	1-136-601-11	FILM	0.01MF	5%	630V	
C703	1-123-875-11	ELECT	10MF	20%	50V	
C704	1-123-946-00	ELECT	4.7MF	20%	250V	
C705	1-106-367-00	MYLAR	0.01MF	10%	200V	
C707	1-102-116-00	CERAMIC	680PF	10%	50V	
C708	1-102-116-00	CERAMIC	680PF	10%	50V	
C709	1-102-116-00	CERAMIC	680PF	10%	50V	
C710	1-102-117-00	CERAMIC	820PF	10%	50V	
C711	1-126-233-11	ELECT	22MF	20%	25V	
C712	1-102-116-00	CERAMIC	680PF	10%	50V	
C713	1-102-117-00	CERAMIC	820PF	10%	50V	
C714	1-162-622-11	CERAMIC	330PF	10%	6.3KV	
C715	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C718	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C719	1-126-233-11	ELECT	22MF	20%	25V	
C720	1-126-233-11	ELECT	22MF	20%	25V	
C721	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C730	1-102-116-00	CERAMIC	680PF	10%	50V	
C731	1-102-116-00	CERAMIC	680PF	10%	50V	
C732	1-102-116-00	CERAMIC	680PF	10%	50V	
		<DIODE>				
D701	8-719-911-19	DIODE 1SS119				
D702	8-719-911-19	DIODE 1SS119				
D703	8-719-911-19	DIODE 1SS119				
D704	8-719-911-19	DIODE 1SS119				
D705	8-719-911-19	DIODE 1SS119				
D706	8-719-911-19	DIODE 1SS119				
D707	8-719-911-19	DIODE 1SS119				
D708	8-719-911-19	DIODE 1SS119				
D709	8-719-911-19	DIODE 1SS119				
D710	8-719-901-83	DIODE 1SS83				
D711	8-719-901-83	DIODE 1SS83				
D712	8-719-901-83	DIODE 1SS83				
D713	8-719-901-83	DIODE 1SS83				
		<JACK>				
J701	1-540-071-11	SOCKET, PICTURE TUBE				

C H3 A

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<COIL>				
L701	1-408-417-00	INDUCTOR	47UH			
L702	1-408-421-00	INDUCTOR	100UH			
L703	1-408-420-00	INDUCTOR	82UH			
L704	1-408-410-00	INDUCTOR	12UH			
L705	1-408-411-00	INDUCTOR	15UH			
L706	1-408-421-00	INDUCTOR	100UH			
L707	1-408-411-00	INDUCTOR	15UH			
		<TRANSISTOR>				
Q701	8-729-326-11	TRANSISTOR 2SC2611				
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q703	8-729-200-17	TRANSISTOR 2SA1091				
Q704	8-729-326-11	TRANSISTOR 2SC2611				
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q706	8-729-200-17	TRANSISTOR 2SA1091				
Q707	8-729-200-17	TRANSISTOR 2SA1091				
Q708	8-729-326-11	TRANSISTOR 2SC2611				
Q709	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q710	8-729-255-12	TRANSISTOR 2SC2551				
Q711	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q712	8-729-255-12	TRANSISTOR 2SC2551				
Q713	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q714	8-729-200-17	TRANSISTOR 2SA1091				
Q715	8-729-200-17	TRANSISTOR 2SA1091				
Q716	8-729-200-17	TRANSISTOR 2SA1091				
		<RESISTOR>				
R701	1-216-392-11	METAL OXIDE	1.8	5%	3W	F
R702	1-202-848-00	SOLID	680K	10%	1/2W	
R703	1-202-815-11	SOLID	47K	10%	1/2W	
R704	1-202-846-00	SOLID	470K	10%	1/2W	
R705	1-202-549-00	SOLID	100	10%	1/2W	
R706	1-202-838-00	SOLID	100K	10%	1/2W	
R707	1-202-842-11	SOLID	220K	10%	1/2W	
R708	1-202-818-00	SOLID	1K	10%	1/2W	
R709	1-202-818-00	SOLID	1K	10%	1/2W	
R710	1-202-818-00	SOLID	1K	10%	1/2W	
R711	1-202-837-00	SOLID	82K	10%	1/2W	
R712	1-202-842-11	SOLID	220K	10%	1/2W	
R713 ⚠	1-216-486-51	METAL OXIDE	8.2K	5%	3W	F
R714	1-249-409-11	CARBON	220	5%	1/4W	
R715	1-202-818-00	SOLID	1K	10%	1/2W	
R716 ⚠	1-216-486-51	METAL OXIDE	8.2K	5%	3W	F
R717	1-249-409-11	CARBON	220	5%	1/4W	
R718	1-249-409-11	CARBON	220	5%	1/4W	
R720 ⚠	1-216-486-51	METAL OXIDE	8.2K	5%	3W	F
R721	1-202-842-11	SOLID	220K	10%	1/2W	
R723	1-249-405-11	CARBON	100	5%	1/4W	
R724	1-249-405-11	CARBON	100	5%	1/4W	
R725	1-249-429-11	CARBON	10K	5%	1/4W	
R726	1-249-407-11	CARBON	150	5%	1/4W	
R727	1-249-429-11	CARBON	10K	5%	1/4W	
R728	1-249-407-11	CARBON	150	5%	1/4W	
R729	1-249-405-11	CARBON	100	5%	1/4W	
R730	1-249-407-11	CARBON	150	5%	1/4W	
R731	1-247-704-11	CARBON	220	5%	1/4W	F
R732	1-247-704-11	CARBON	220	5%	1/4W	F
R733	1-247-704-11	CARBON	220	5%	1/4W	F
R739	1-249-433-11	CARBON	22K	5%	1/4W	
R740	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R741	1-249-417-11	CARBON	1K	5%	1/4W	
R742	1-249-429-11	CARBON	10K	5%	1/4W	F
R743	1-249-429-11	CARBON	10K	5%	1/4W	F
R744	1-247-725-11	CARBON	10K	5%	1/4W	F
R745	1-247-713-11	CARBON	1K	5%	1/4W	F
R746	1-215-902-11	METAL OXIDE	47K	5%	1W	F
R747	1-247-725-11	CARBON	10K	5%	1/4W	F
R749	1-249-437-11	CARBON	47K	5%	1/4W	
R750	1-249-409-11	CARBON	220	5%	1/4W	
R751	1-249-397-11	CARBON	22	5%	1/4W	
R752	1-249-397-11	CARBON	22	5%	1/4W	
R753	1-249-397-11	CARBON	22	5%	1/4W	
R754	1-249-429-11	CARBON	10K	5%	1/4W	
R755	1-249-411-11	CARBON	330	5%	1/4W	
R757	1-249-425-11	CARBON	4.7K	5%	1/4W	
R777	1-249-441-11	CARBON	100K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV702 ⚠	1-230-619-11	RES, ADJ, METAL GLAZE 110M				
		**********				
	*1-630-874-11	H3 BOARD (KV-27XBR10 ONLY)				
		********				
	*1-564-524-11	PLUG, CONNECTOR 9P				
	*1-564-525-11	PLUG, CONNECTOR 10P				
	*1-566-042-11	PIN, CONNECTOR 3P				
		<CAPACITOR>				
C51	1-124-584-00	ELECT	100MF	20%	10V	
C52	1-126-160-11	ELECT	1MF	20%	50V	
C53	1-124-465-00	ELECT	0.47MF	20%	50V	
		<DIODE>				
D05	8-719-911-19	DIODE 1SS119				
D07	8-719-911-19	DIODE 1SS119				
D51	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D51				
D52	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D52				
D53	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D53				
D54	8-719-911-19	DIODE 1SS119				
		<RESISTOR>				
R51	1-249-405-11	CARBON	100	5%	1/4W	
R52	1-249-405-11	CARBON	100	5%	1/4W	
R53	1-249-409-11	CARBON	220	5%	1/4W	
R54	1-249-437-11	CARBON	47K	5%	1/4W	
		<SWITCH>				
S51	⚠ 1-554-804-12	SWITCH, PUSH (1 KEY) (POWER)				
S52	1-554-804-11	SWITCH, PUSH (1 KEY)				
S53	1-554-804-11	SWITCH, PUSH (1 KEY)				
S54	1-554-804-11	SWITCH, PUSH (1 KEY)				
S55	1-554-804-11	SWITCH, PUSH (1 KEY)				
S56	1-554-804-11	SWITCH, PUSH (1 KEY)				
S57	1-554-804-11	SWITCH, PUSH (1 KEY)				

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

H5 K

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*1-630-876-11	H5 BOARD (KV-27XBR60 ONLY)				
		********				
	*1-564-524-11	PLUG, CONNECTOR 9P				
	*1-564-525-11	PLUG, CONNECTOR 10P				
		<CAPACITOR>				
C52	1-126-160-11	ELECT	1MF	20%	50V	
C53	1-124-465-00	ELECT	0.47MF	20%	50V	
C55	1-102-114-00	CERAMIC	470PF	10%	50V	
		<DIODE>				
D05	8-719-911-19	DIODE 1SS119				
D07	8-719-911-19	DIODE 1SS119				
D51	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D51				
D52	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D52				
D53	8-719-812-41	DIODE TLR124				
	*4-374-906-01	HOLDER (TV/V), LED; D53				
D54	8-719-911-19	DIODE 1SS119				
		<IC>				
IC51	8-741-139-80	IC BX1398				
		<RESISTOR>				
R53	1-249-409-11	CARBON	220	5%	1/4W	
R54	1-249-437-11	CARBON	47K	5%	1/4W	
		<SWITCH>				
S51	⚠1-571-532-21	SWITCH, TACTIL (POWER)				
S52	1-571-532-21	SWITCH, TACTIL				
S53	1-571-532-21	SWITCH, TACTIL				
S54	1-571-532-21	SWITCH, TACTIL				
S55	1-571-532-21	SWITCH, TACTIL				
S56	1-571-532-21	SWITCH, TACTIL				
S57	1-571-532-21	SWITCH, TACTIL				
**********						
	*A-1385-051-A	K BOARD, COMPLETE (KV-27XBR10 ONLY)				
		**********				
	*A-1385-052-A	K BOARD, COMPLETE (KV-27XBR60 ONLY)				
		**********				
	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P				
	*1-560-123-00	PLUG, CONNECTOR (2.5MM PITCH)				
	*1-564-517-11	PLUG, CONNECTOR 2P				
	*1-564-518-11	PLUG, CONNECTOR 3P				
	*1-565-494-11	CONNECTOR, BOARD TO BOARD 18P				
	4-341-752-01	EYELET (EY2451 (KV-27XBR60 ONLY), EY2452 (KV-27XBR60 ONLY),EY2453 (KV-27XBR60 ONLY),EY2454 (KV-27XBR60 ONLY) EY2455,EY2456,EY2457,EY2458)				
		<CAPACITOR>				
C2451	1-124-257-00	ELECT	2.2MF	20%	50V	
C2452	1-124-925-11	ELECT	2.2MF	20%	50V	
C2453	1-126-096-11	ELECT	10MF	20%	35V	
C2454	1-123-875-11	ELECT	10MF	20%	50V	
C2456	1-136-167-00	FILM	0.15MF	5%	50V	(KV-27XBR10 ONLY)
	1-136-170-00	FILM	0.27MF	5%	50V	(KV-27XBR60 ONLY)
C2457	1-124-925-11	ELECT	2.2MF	20%	50V	
C2458	1-124-618-11	ELECT	2200MF	20%	35V	
C2460	1-136-167-00	FILM	0.15MF	5%	50V	(KV-27XBR10 ONLY)
C2461	1-124-925-11	ELECT	2.2MF	20%	50V	
C2462	1-126-233-11	ELECT	22MF	20%	25V	
C2465	1-136-170-00	FILM	0.27MF	5%	50V	(KV-27XBR60 ONLY)
C2466	1-124-925-11	ELECT	2.2MF	20%	50V	(KV-27XBR60 ONLY)
C2469	1-124-925-11	ELECT	2.2MF	20%	50V	(KV-27XBR60 ONLY)
C2470	1-126-233-11	ELECT	22MF	20%	50V	
C2471	1-124-499-11	ELECT	1MF	20%	50V	
C2472	1-124-618-11	ELECT	2200MF	20%	35V	
C2473	1-124-484-11	ELECT	220MF	20%	35V	
C2474	1-124-484-11	ELECT	220MF	20%	35V	
C2475	1-136-165-00	FILM	0.1MF	5%	50V	
C2476	1-136-165-00	FILM	0.1MF	5%	50V	
C2477	1-124-618-11	ELECT	2200MF	20%	35V	
C2478	1-126-233-11	ELECT	22MF	20%	50V	(KV-27XBR60 ONLY)
C2479	1-124-499-11	ELECT	1MF	20%	50V	(KV-27XBR60 ONLY)
C2480	1-124-484-11	ELECT	220MF	20%	35V	(KV-27XBR60 ONLY)
C2481	1-124-484-11	ELECT	220MF	20%	35V	(KV-27XBR60 ONLY)
C2482	1-124-618-11	ELECT	2200MF	20%	35V	
C2483	1-124-618-11	ELECT	2200MF	20%	35V	
C2484	1-136-165-00	FILM	0.1MF	5%	50V	(KV-27XBR60 ONLY)
C2485	1-136-165-00	FILM	0.1MF	5%	50V	(KV-27XBR60 ONLY)
C2486	1-126-233-11	ELECT	22MF	20%	50V	
C2487	1-126-233-11	ELECT	22MF	20%	50V	(KV-27XBR60 ONLY)
		<DIODE>				
D2451	8-719-911-19	DIODE 1SS119				
D2452	8-719-911-19	DIODE 1SS119				
		<IC>				
IC2451	8-759-980-43	IC TDA2009A				
IC2452	8-759-980-43	IC TDA2009A (KV-27XBR60 ONLY)				
		<IC LINK>				
PS2401	1-532-984-11	LINK, IC				
PS2402	1-532-984-11	LINK, IC (KV-27XBR60 ONLY)				
		<TRANSISTOR>				
Q2451	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2452	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2455	8-729-119-78	TRANSISTOR 2SC2785-HFE				
Q2456	8-729-119-76	TRANSISTOR 2SA1175-HFE				
Q2457	8-729-119-78	TRANSISTOR 2SC2785-HFE(KV-27XBR60 ONLY)				
Q2458	8-729-119-76	TRANSISTOR 2SA1175-HFE(KV-27XBR60 ONLY)				

K H4 N

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<RESISTOR>				
R2424	1-215-421-00	METAL	1K	1%	1/6W	(KV-27XBR60 ONLY)
R2425	1-215-409-00	METAL	330	1%	1/6W	(KV-27XBR60 ONLY)
R2426	1-215-411-00	METAL	390	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-409-00	METAL	330	1%	1/6W	(KV-27XBR60 ONLY)
R2427	1-215-411-00	METAL	390	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-421-00	METAL	1K	1%	1/6W	(KV-27XBR60 ONLY)
R2433	1-215-439-00	METAL	5.6K	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-437-00	METAL	4.7K	1%	1/6W	(KV-27XBR60 ONLY)
R2434	1-215-439-00	METAL	5.6K	1%	1/6W	(KV-27XBR10 ONLY)
R2438	1-215-437-00	METAL	4.7K	1%	1/6W	(KV-27XBR60 ONLY)
R2439	1-249-441-11	CARBON	100K	5%	1/4W	
R2440	1-249-413-11	CARBON	470	5%	1/4W	
R2441	1-249-435-11	CARBON	33K	5%	1/4W	(KV-27XBR60 ONLY)
R2442	1-249-441-11	CARBON	100K	5%	1/4W	(KV-27XBR60 ONLY)
R2443	1-249-413-11	CARBON	470	5%	1/4W	(KV-27XBR60 ONLY)
R2444	1-249-430-11	CARBON	12K	5%	1/4W	(KV-27XBR60 ONLY)
R2445	1-249-430-11	CARBON	12K	5%	1/4W	(KV-27XBR60 ONLY)
R2446	1-249-437-11	CARBON	47K	5%	1/4W	(KV-27XBR10 ONLY)
	1-249-441-11	CARBON	100K	5%	1/4W	(KV-27XBR60 ONLY)
R2447	1-249-435-11	CARBON	33K	5%	1/4W	(KV-27XBR10 ONLY)
	1-249-439-11	CARBON	68K	5%	1/4W	(KV-27XBR60 ONLY)
R2451	1-249-441-11	CARBON	100K	5%	1/4W	
R2452	1-249-441-11	CARBON	100K	5%	1/4W	
R2453	1-249-405-11	CARBON	100	5%	1/4W	
R2454	1-215-437-00	METAL	4.7K	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-439-00	METAL	5.6K	1%	1/6W	(KV-27XBR60 ONLY)
R2455	1-215-441-00	METAL	6.8K	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-427-00	METAL	1.8K	1%	1/6W	(KV-27XBR60 ONLY)
R2456	1-249-441-11	CARBON	100K	5%	1/4W	
R2457	1-249-441-11	CARBON	100K	5%	1/4W	
R2458	1-249-405-11	CARBON	100	5%	1/4W	
R2459	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2460	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2461	1-215-437-00	METAL	4.7K	1%	1/6W	(KV-27XBR10 ONLY)
R2462	1-215-441-00	METAL	6.8K	1%	1/6W	(KV-27XBR10 ONLY)
R2463	1-249-435-11	CARBON	33K	5%	1/4W	
R2464	1-249-441-11	CARBON	100K	5%	1/4W	
R2465	1-215-419-00	METAL	820	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-423-00	METAL	1.2K	1%	1/6W	(KV-27XBR60 ONLY)
R2466	1-215-419-00	METAL	820	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-417-00	METAL	680	1%	1/6W	(KV-27XBR60 ONLY)
R2467	1-215-383-00	METAL	27	1%	1/6W	(KV-27XBR10 ONLY)
R2468	1-215-383-00	METAL	27	1%	1/6W	(KV-27XBR10 ONLY)
	1-215-387-00	METAL	39	1%	1/6W	(KV-27XBR60 ONLY)
R2469	1-215-387-00	METAL	39	1%	1/6W	(KV-27XBR60 ONLY)
R2470	1-249-385-11	CARBON	2.2	5%	1/4W F	
R2471	1-249-385-11	CARBON	2.2	5%	1/4W F	
R2473	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2474	1-249-421-11	CARBON	2.2K	5%	1/4W	
R2483	1-215-439-00	METAL	5.6K	1%	1/6W	(KV-27XBR60 ONLY)
R2484	1-215-427-00	METAL	1.8K	1%	1/6W	(KV-27XBR60 ONLY)
R2487	1-249-430-11	CARBON	12K	5%	1/4W	
R2488	1-249-430-11	CARBON	12K	5%	1/4W	
R2489	1-215-423-00	METAL	1.2K	1%	1/6W	(KV-27XBR60 ONLY)
R2491	1-215-387-00	METAL	39	1%	1/6W	(KV-27XBR60 ONLY)
R2492	1-215-417-00	METAL	680	1%	1/6W	(KV-27XBR60 ONLY)
R2493	1-215-387-00	METAL	39	1%	1/6W	(KV-27XBR60 ONLY)
R2494	1-249-385-11	CARBON	2.2	5%	1/4W F	(KV-27XBR60 ONLY)
R2495	1-249-385-11	CARBON	2.2	5%	1/4W F	(KV-27XBR60 ONLY)
R2497	1-249-421-11	CARBON	2.2K	5%	1/4W	(KV-27XBR60 ONLY)
R2498	1-249-421-11	CARBON	2.2K	5%	1/4W	(KV-27XBR60 ONLY)

****

*1-630-875-11	H4 BOARD (KV-27XBR10 ONLY)	
	********	
*1-566-042-11	PIN, CONNECTOR 3P	
	<IC>	
IC51 8-749-900-36	IC BX1393	

****

*1-629-620-11	N BOARD (KV-27XBR60 ONLY)	
	*******	
*1-564-505-11	PLUG, CONNECTOR 2P	

N U

REF.NO.	PART NO.	DESCRIPTION				REMARK
		<CAPACITOR>				
C890	1-124-925-11	ELECT	2.2MF	20%	50V	
C891	1-124-925-11	ELECT	2.2MF	20%	50V	
**********						
	*A-1394-173-A	U BOARD, COMPLETE				
		**********				
	*1-564-519-11	PLUG, CONNECTOR 4P				
	1-564-523-11	PLUG, CONNECTOR 8P				
	*1-566-941-11	CONNECTOR, HINGE (TAB) 30P				
	*1-568-377-11	CONNECTOR, HINGE (TAB) 7P				
	*4-341-752-01	EYELET (EY1,EY2,EY3,EY4,EY5)				
		<CAPACITOR>				
C401	1-126-233-11	ELECT	22MF	20%	25V	
C402	1-101-004-00	CERAMIC	0.01MF		50V	
C403	1-124-499-11	ELECT	1MF	20%	50V	
C404	1-124-499-11	ELECT	1MF	20%	50V	
C405	1-126-233-11	ELECT	22MF	20%	25V	
C407	1-124-499-11	ELECT	1MF	20%	50V	
C408	1-124-499-11	ELECT	1MF	20%	50V	
C409	1-126-233-11	ELECT	22MF	20%	25V	
C410	1-123-875-11	ELECT	10MF	20%	50V	
C411	1-126-233-11	ELECT	22MF	20%	25V	
C413	1-124-499-11	ELECT	1MF	20%	50V	
C414	1-124-499-11	ELECT	1MF	20%	50V	
C415	1-126-233-11	ELECT	22MF	20%	25V	
C418	1-124-478-11	ELECT	100MF	20%	25V	
C419	1-124-478-11	ELECT	100MF	20%	25V	
C420	1-124-477-11	ELECT	47MF	20%	16V	
C421	1-126-103-11	ELECT	470MF	20%	16V	
C422	1-126-103-11	ELECT	470MF	20%	16V	
C423	1-101-004-00	CERAMIC	0.01MF		50V	
C424	1-126-233-11	ELECT	22MF	20%	25V	
C425	1-126-233-11	ELECT	22MF	20%	25V	
C426	1-124-477-11	ELECT	47MF	20%	16V	
C428	1-126-233-11	ELECT	22MF	20%	25V	
C429	1-124-589-11	ELECT	47MF	20%	16V	
C430	1-126-233-11	ELECT	22MF	20%	25V	
C431	1-124-478-11	ELECT	100MF	20%	25V	
C433	1-126-233-11	ELECT	22MF	20%	25V	
C434	1-126-233-11	ELECT	22MF	20%	25V	
C435	1-124-499-11	ELECT	1MF	20%	50V	
C436	1-124-499-11	ELECT	1MF	20%	50V	
C437	1-126-233-11	ELECT	22MF	20%	25V	
C438	1-126-233-11	ELECT	22MF	20%	25V	
C439	1-126-233-11	ELECT	22MF	20%	25V	
C440	1-124-477-11	ELECT	47MF	20%	16V	
C441	1-124-477-11	ELECT	47MF	20%	16V	
C442	1-126-233-11	ELECT	22MF	20%	25V	
C445	1-124-589-11	ELECT	47MF	20%	16V	
C462	1-124-589-11	ELECT	47MF	20%	16V	
C490	1-101-004-00	CERAMIC	0.01MF		50V	
C491	1-124-477-11	ELECT	47MF	20%	16V	
C492	1-126-233-11	ELECT	22MF	20%	25V	
C493	1-124-477-11	ELECT	47MF	20%	16V	
C495	1-102-973-00	CERAMIC	100PF	5%	50V	
C1402	1-124-589-11	ELECT	47MF	20%	16V	
C1403	1-124-589-11	ELECT	47MF	20%	16V	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D401	8-719-109-97	DIODE RD6.8ES-B2	
D402	8-719-109-97	DIODE RD6.8ES-B2	
D403	8-719-109-97	DIODE RD6.8ES-B2	
D408	8-719-109-97	DIODE RD6.8ES-B2	
D409	8-719-109-97	DIODE RD6.8ES-B2	
D410	8-719-109-97	DIODE RD6.8ES-B2	
D411	8-719-109-97	DIODE RD6.8ES-B2	
D415	8-719-110-17	DIODE RD10ES-B2	
D418	8-719-911-19	DIODE 1SS119	
D419	8-719-911-19	DIODE 1SS119	
D421	8-719-109-97	DIODE RD6.8ES-B2	
D422	8-719-109-97	DIODE RD6.8ES-B2	
D423	8-719-109-97	DIODE RD6.8ES-B2	
		<IC>	
IC401	8-759-710-68	IC NJM2245S	
IC402	8-759-710-68	IC NJM2245S	
IC405	8-759-710-69	IC NJM2233BS	
IC444	8-752-032-27	IC CXA1114P	
IC1401	8-759-710-69	IC NJM2233BS	
		<JACK>	
J401	1-565-931-11	TERMINAL BLOCK, S 3P	
J402	1-565-840-11	PIN JACK BLOCK 6P	
J403	1-565-931-11	TERMINAL BLOCK, S 3P	
J404	1-565-838-11	PIN JACK BLOCK 2P	
		<COIL>	
L401	1-408-412-00	INDUCTOR 18UH	
L404	1-410-663-31	INDUCTOR 10UH	
		<TRANSISTOR>	
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q405	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q406	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q407	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q408	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q409	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q410	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q411	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q412	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q413	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q414	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q415	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q416	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q491	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q492	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
		<RESISTOR>	
R401	1-247-804-11	CARBON 75 5% 1/4W	
R402	1-247-804-11	CARBON 75 5% 1/4W	
R403	1-249-434-11	CARBON 27K 5% 1/4W	
R404	1-247-885-00	CARBON 180K 5% 1/4W	
R405	1-247-885-00	CARBON 180K 5% 1/4W	

U Fo

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R406	1-249-434-11	CARBON	27K	5%	1/4W	
R407	1-247-804-11	CARBON	75	5%	1/4W	
R409	1-249-434-11	CARBON	27K	5%	1/4W	
R410	1-247-885-00	CARBON	180K	5%	1/4W	
R411	1-247-804-11	CARBON	75	5%	1/4W	
R413	1-249-434-11	CARBON	27K	5%	1/4W	
R414	1-247-885-00	CARBON	180K	5%	1/4W	
R415	1-249-434-11	CARBON	27K	5%	1/4W	
R416	1-247-885-00	CARBON	180K	5%	1/4W	
R417	1-247-895-00	CARBON	470K	5%	1/4W	
R418	1-249-417-11	CARBON	1K	5%	1/4W	
R419	1-247-895-00	CARBON	470K	5%	1/4W	
R420	1-249-417-11	CARBON	1K	5%	1/4W	
R421	1-247-804-11	CARBON	75	5%	1/4W	
R422	1-247-895-00	CARBON	470K	5%	1/4W	
R423	1-247-895-00	CARBON	470K	5%	1/4W	
R424	1-247-895-00	CARBON	470K	5%	1/4W	
R425	1-247-895-00	CARBON	470K	5%	1/4W	
R426	1-249-424-11	CARBON	3.9K	5%	1/4W	
R427	1-247-895-00	CARBON	470K	5%	1/4W	
R428	1-249-424-11	CARBON	3.9K	5%	1/4W	
R429	1-249-434-11	CARBON	27K	5%	1/4W	
R432	1-249-405-11	CARBON	100	5%	1/4W	
R433	1-249-413-11	CARBON	470	5%	1/4W	
R434	1-249-409-11	CARBON	220	5%	1/4W	
R435	1-249-403-11	CARBON	68	5%	1/4W	
R436	1-249-425-11	CARBON	4.7K	5%	1/4W	
R437	1-247-885-00	CARBON	180K	5%	1/4W	
R438	1-249-405-11	CARBON	100	5%	1/4W	
R439	1-249-413-11	CARBON	470	5%	1/4W	
R440	1-249-417-11	CARBON	1K	5%	1/4W	
R441	1-249-409-11	CARBON	220	5%	1/4W	
R447	1-249-409-11	CARBON	220	5%	1/4W	
R448	1-249-409-11	CARBON	220	5%	1/4W	
R449	1-249-413-11	CARBON	470	5%	1/4W	
R450	1-249-409-11	CARBON	220	5%	1/4W	
R451	1-249-421-11	CARBON	2.2K	5%	1/4W	
R452	1-249-433-11	CARBON	22K	5%	1/4W	
R457	1-249-405-11	CARBON	100	5%	1/4W	
R458	1-249-405-11	CARBON	100	5%	1/4W	
R459	1-249-417-11	CARBON	1K	5%	1/4W	
R460	1-249-405-11	CARBON	100	5%	1/4W	
R461	1-249-417-11	CARBON	1K	5%	1/4W	
R462	1-249-417-11	CARBON	1K	5%	1/4W	
R463	1-249-405-11	CARBON	100	5%	1/4W	
R465	1-249-417-11	CARBON	1K	5%	1/4W	
R466	1-249-405-11	CARBON	100	5%	1/4W	
R467	1-249-405-11	CARBON	100	5%	1/4W	
R468	1-249-433-11	CARBON	22K	5%	1/4W	
R469	1-249-433-11	CARBON	22K	5%	1/4W	
R470	1-249-403-11	CARBON	68	5%	1/4W	
R471	1-249-403-11	CARBON	68	5%	1/4W	
R472	1-249-403-11	CARBON	68	5%	1/4W	
R474	1-249-405-11	CARBON	100	5%	1/4W	
R475	1-249-417-11	CARBON	1K	5%	1/4W	
R476	1-249-433-11	CARBON	22K	5%	1/4W	
R479	1-249-433-11	CARBON	22K	5%	1/4W	
R480	1-249-433-11	CARBON	22K	5%	1/4W	
R481	1-249-433-11	CARBON	22K	5%	1/4W	
R483	1-249-417-11	CARBON	1K	5%	1/4W	
R484	1-215-455-00	METAL	27K	1%	1/6W	
R485	1-215-475-00	METAL	180K	1%	1/6W	
R486	1-215-455-00	METAL	27K	1%	1/6W	
R487	1-215-475-00	METAL	180K	1%	1/6W	
R488	1-249-433-11	CARBON	22K	5%	1/4W	
R489	1-249-433-11	CARBON	22K	5%	1/4W	
R490	1-249-417-11	CARBON	1K	5%	1/4W	
R491	1-249-417-11	CARBON	1K	5%	1/4W	
R492	1-249-417-11	CARBON	1K	5%	1/4W	
R493	1-249-431-11	CARBON	15K	5%	1/4W	
R494	1-249-429-11	CARBON	10K	5%	1/4W	
R495	1-249-417-11	CARBON	1K	5%	1/4W	
R496	1-249-425-11	CARBON	4.7K	5%	1/4W	
R497	1-249-417-11	CARBON	1K	5%	1/4W	
R498	1-249-417-11	CARBON	1K	5%	1/4W	
R1401	1-249-405-11	CARBON	100	5%	1/4W	
R1402	1-249-405-11	CARBON	100	5%	1/4W	
R1403	1-249-417-11	CARBON	1K	5%	1/4W	
R1420	1-249-413-11	CARBON	470	5%	1/4W	
R1421	1-249-413-11	CARBON	470	5%	1/4W	
R1422	1-249-405-11	CARBON	100	5%	1/4W	
R1423	1-249-441-11	CARBON	100K	5%	1/4W	
R1424	1-249-429-11	CARBON	10K	5%	1/4W	
R1425	1-249-429-11	CARBON	10K	5%	1/4W	

<SWITCH>

S401	1-571-729-11	SWITCH, SLIDE
S402	1-554-303-21	SWITCH, KEY BOARD

****

	*1-629-628-11	FO BOARD

****

****

MISCELLANEOUS
****

	⚠1-417-177-11	SELECTOR, ANTENNA (AS-1)
	⚠1-426-350-21	COIL, DEMAGNETIZATION
	⚠1-451-275-11	DEFLECTION YOKE (Y28PFA)
	1-452-032-00	MAGNET, DISK; 10MM ϕ
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ
	1-503-485-11	SPEAKER (PIEZOERECTRIC TWEETER) (KV-27XBR10 ONLY)
	1-503-914-11	SPEAKER (KV-27XBR10 ONLY)
	1-503-917-11	SPEAKER (KV-27XBR60 ONLY)
	1-544-095-11	SPEAKER (KV-27XBR60 ONLY)
	*1-556-945-21	CABLE, P-P
	⚠1-559-396-11	CORD, POWER
	*1-568-507-11	CONNECTOR, BRIDGE 15P
	8-741-159-30	IC SBX1593-01
V901	⚠8-737-753-05	PICTURE TUBE (A68JMT50X)

****

ACCESSORIES AND PACKING MATERIALS
****

PART NO.	DESCRIPTION	REMARK
1-465-172-11	REMOTE COMMANDER (RM-762)	
1-562-443-11	CONNECTOR, ANTENNA	
3-750-054-21	MANUAL, INSTRUCTION	
3-750-054-31	MANUAL, INSTRUCTION (KV-27XBR10 (CND) ONLY)	
*4-380-432-01	BAG, PROTECTION (KV-27XBR10 ONLY)	
*4-386-739-01	BAG, PROTECTION (KV-27XBR60 ONLY)	
*4-388-386-02	CUSHION (UPPER) (ASSY) (KV-27XBR10 ONLY)	
*4-388-387-01	CUSHION (LOWER) (ASSY) (KV-27XBR10 ONLY)	
*4-388-388-01	INDIVIDUAL CARTON (KV-27XBR10 ONLY)	
*4-389-980-01	CUSHION (UPPER) (ASSY) (KV-27XBR60 ONLY)	
*4-389-981-01	CUSHION (LOWER) (ASSY) (KV-27XBR60 ONLY)	
*4-389-982-01	INDIVIDUAL CARTON (KV-27XBR60 ONLY)	

9-964-256-01

Sony Corporation
TV Group

English
89DR0553-1
Printed in Japan
© 1989. 4

KV-27XBR10/27XBR60
RM-762

SONY
SERVICE MANUAL

US Model
KV-27XBR10
Chassis No. SCC-C59A-A
KV-27XBR60
Chassis No. SCC-C59D-A

Canadian Model
KV-27XBR10
Chassis No. SCC-C60A-A

E Model
KV-27XBR10
Chassis No. SCC-C59A-A

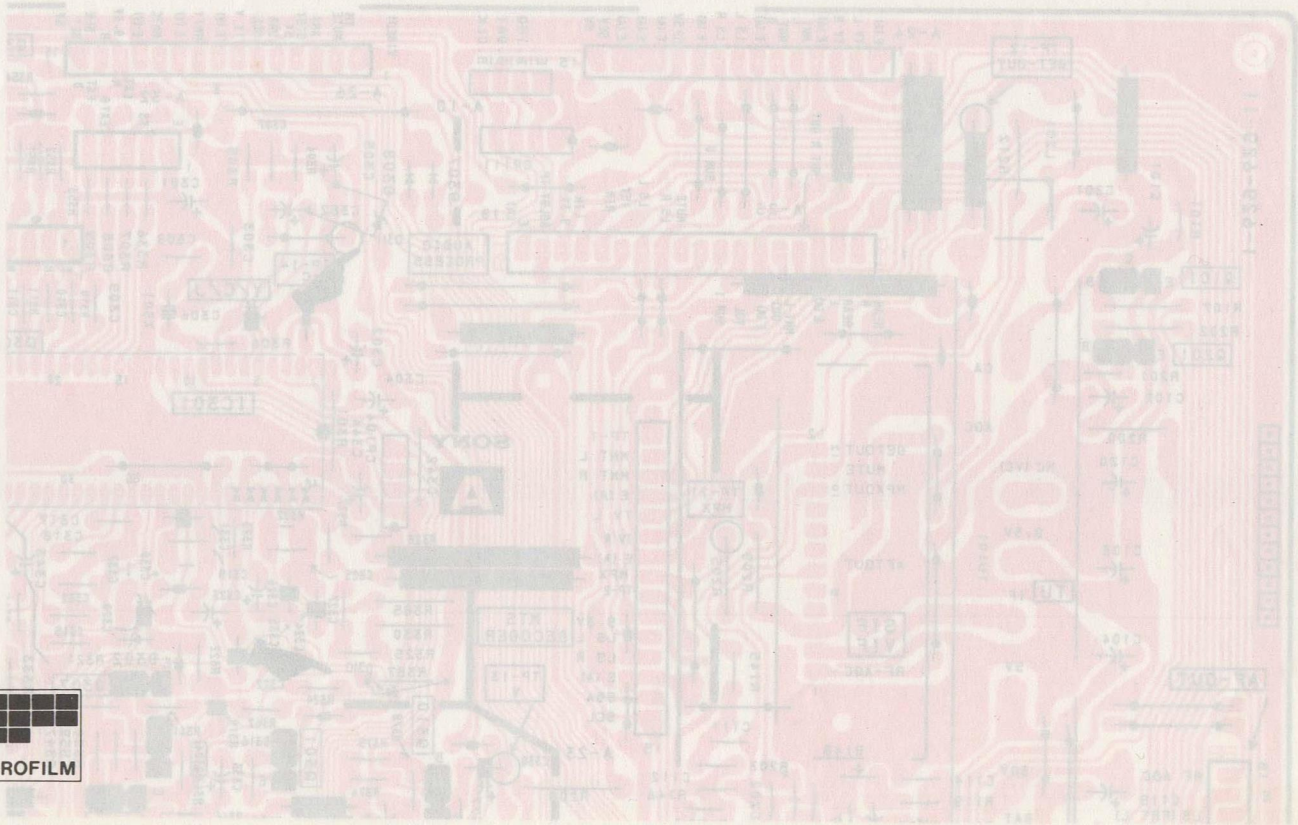
SUPPLEMENT-1

File this supplement with the Service Manual.

INTRODUCTION

Addition: D311 and D312 on A BOARD
Addition: D251, D252 and D253 on X BOARD

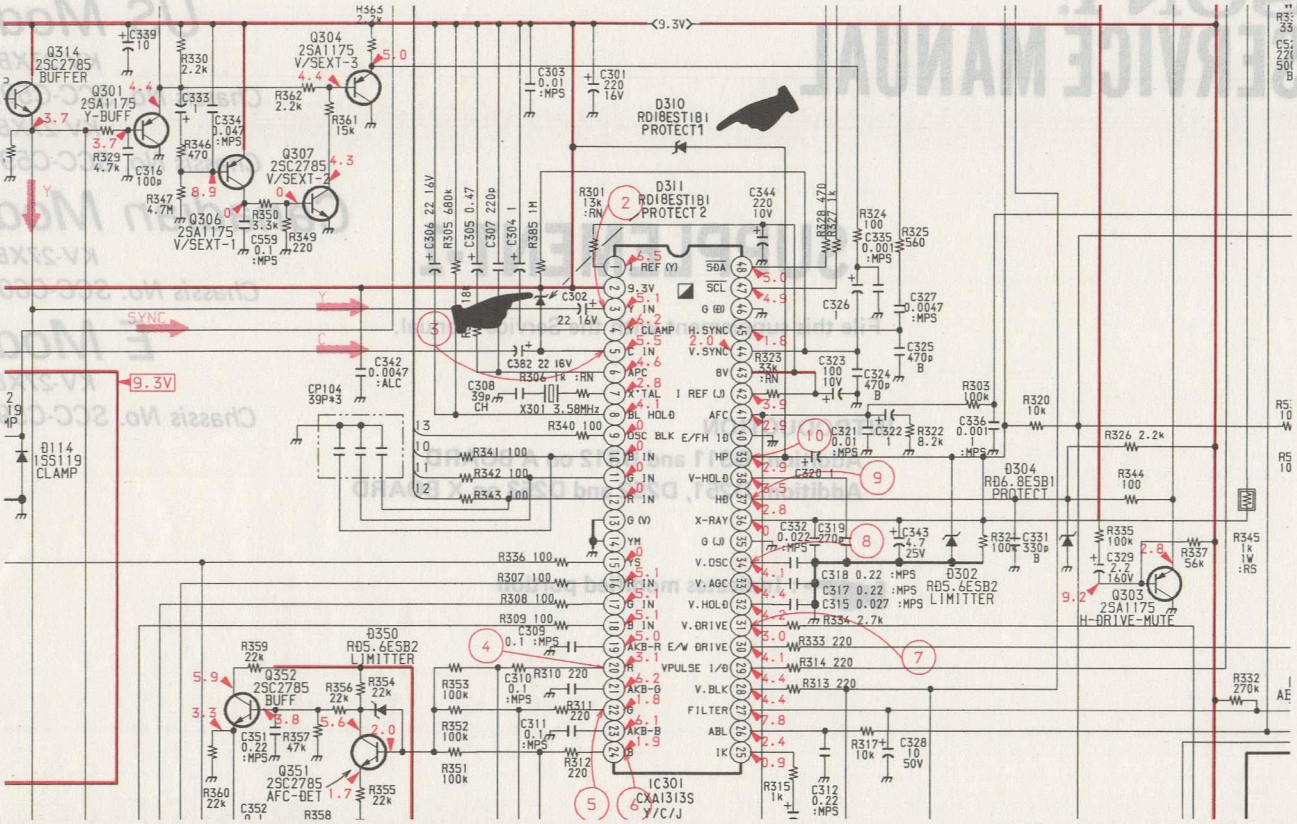
: **Indicates modified portion**



MICROFILM

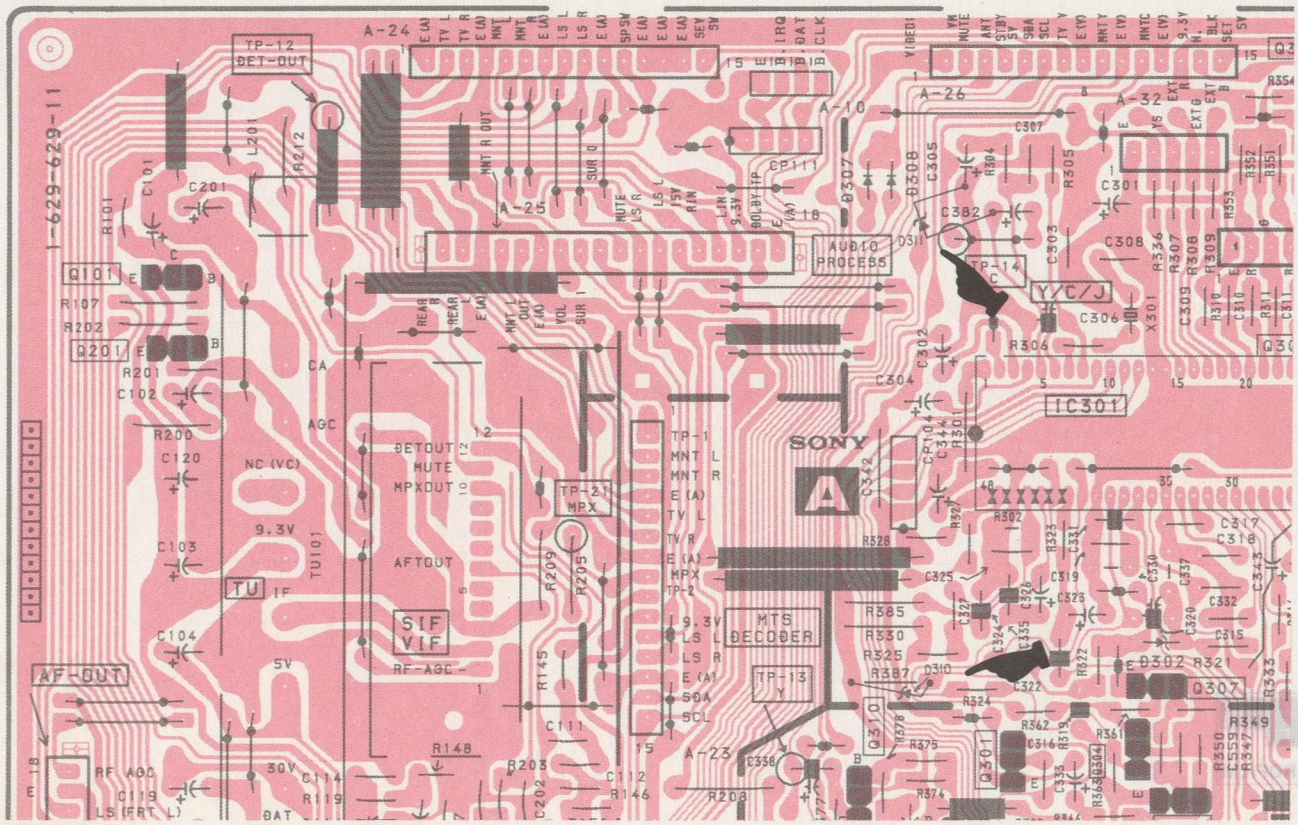
6-4. SCHEMATIC DIAGRAMS: PAGE 38 – 39

A BOARD

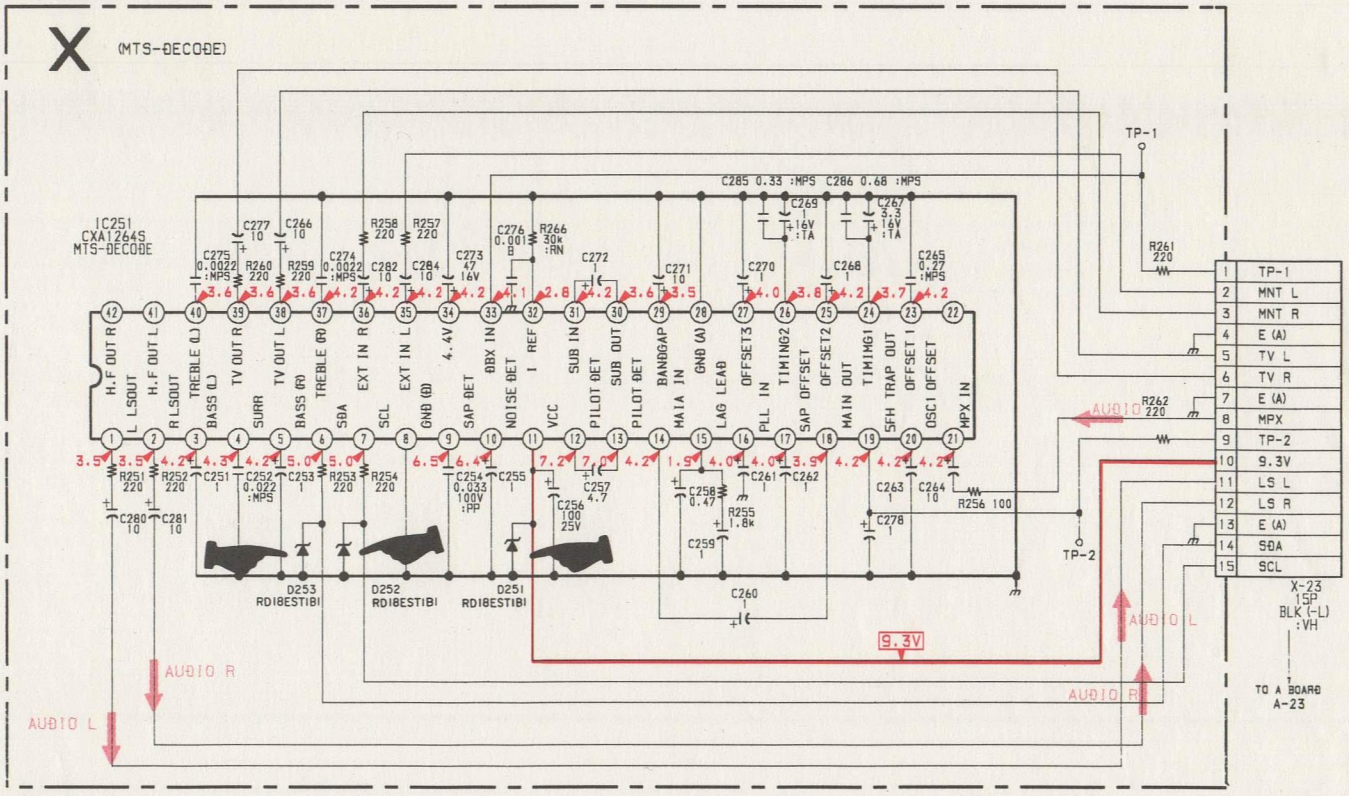


6-3. PRINTED WIRING BOARDS: PAGE 35

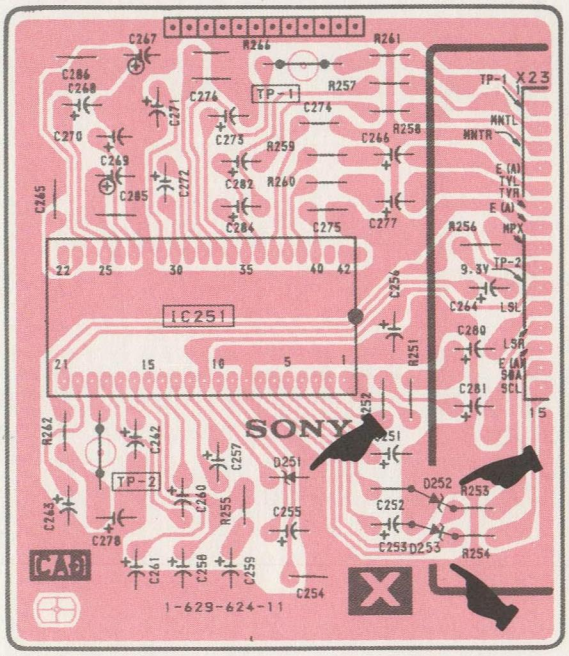
A BOARD

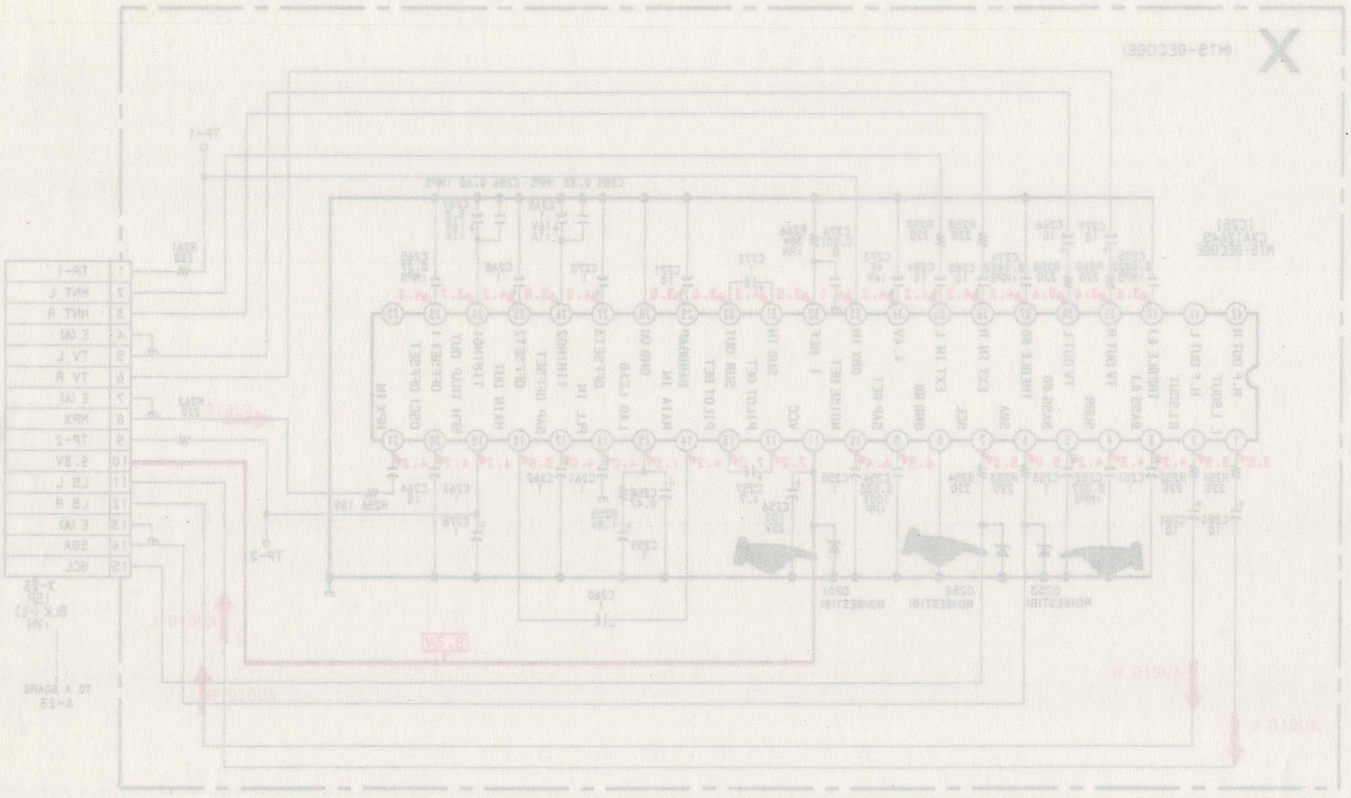


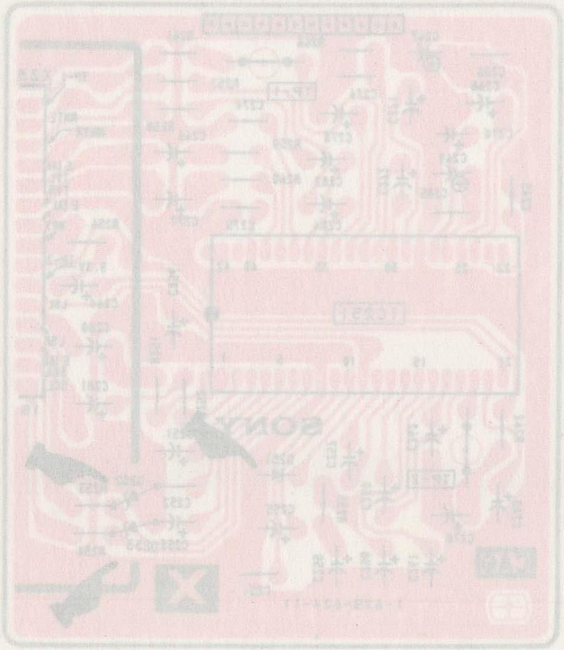
6-4. SCHEMATIC DIAGRAMS: PAGE 42 – 43
X BOARD



6-3. PRINTED WIRING BOARDS: PAGE 48
X BOARD







© 1989. 9

KV-27XBR10/27XBR60
RM-762A

SONY

SERVICE MANUAL

US Model

KV-27XBR10
Chassis No. SCC-C59A-A
KV-27XBR60
Chassis No. SCC-C59D-A

Canadian Model

KV-27XBR10
Chassis No. SCC-C60A-A

E Model

KV-27XBR10
Chassis No. SCC-C59A-A

SUPPLEMENT-2

File this supplement with the service manual.

INTRODUCTION

Remote commander shall be changed from RM-762 to RM-762A

RM-762A PART NO.1-465-381-11

Note : The Service Manual for RM-762A has been issued separately.

MICROFILM

9-964-256-82

Sony Corporation
TV Group

English
90AU0250-1
Printed in Japan
© 1990. 1

KV-27XBR10/27XBR60
RM-762A

SONY

SERVICE MANUAL

US Model
KV-27XBR10 Chassis No.SCC-C59A-A
KV-27XBR60 Chassis No.SCC-C59D-A

Canadian Model
KV-27XBR10 Chassis No.SCC-C60A-A

E Model
KV-27XBR10 Chassis No.SCC-C59A-A

SUPPLEMENT-3

File this supplement with the service manual.

INTRODUCTION

1. Added : X1 board.

: Indicates added portion

SECTION 8 ELECTRICAL PARTS LIST

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*1-635-250-11	X1 BOARD				
		********				
	*1-568-380-21	PIN, CONNECTOR 15P				
		<CAPACITOR>				
C251	1-124-791-11	ELECT	1MF	20%	50V	
C252	1-136-157-00	FILM	0.022MF	5%	50V	
C253	1-124-791-11	ELECT	1MF	20%	50V	
C254	1-130-309-00	FILM	0.033MF	5%	100V	
C255	1-124-791-11	ELECT	1MF	20%	50V	
C256	1-124-478-11	ELECT	100MF	20%	25V	
C257	1-124-927-11	ELECT	4.7MF	20%	50V	
C258	1-124-902-00	ELECT	0.47MF	20%	50V	
C259	1-124-791-11	ELECT	1MF	20%	50V	
C260	1-124-791-11	ELECT	1MF	20%	50V	
C261	1-131-347-00	TANTALUM	1MF	20%	16V	
C262	1-124-791-11	ELECT	1MF	20%	50V	
C263	1-124-791-11	ELECT	1MF	20%	50V	
C264	1-123-875-11	ELECT	10MF	20%	50V	
C265	1-136-170-00	FILM	0.27MF	5%	50V	
C266	1-123-875-11	ELECT	10MF	20%	50V	
C267	1-131-368-00	TANTALUM	3.3MF	10%	16V	
C268	1-124-791-11	ELECT	1MF	20%	50V	
C269	1-131-347-00	TANTALUM	1MF	20%	16V	
C270	1-124-791-11	ELECT	1MF	20%	50V	
C271	1-123-875-11	ELECT	10MF	20%	50V	
C272	1-124-791-11	ELECT	1MF	20%	50V	
C273	1-124-477-11	ELECT	47MF	20%	16V	
C274	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C275	1-130-475-00	MYLAR	0.0022MF	5%	50V	
C276	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C277	1-123-875-11	ELECT	10MF	20%	50V	
C278	1-124-791-11	ELECT	1MF	20%	50V	
C280	1-123-875-11	ELECT	10MF	20%	50V	
C281	1-123-875-11	ELECT	10MF	20%	50V	
C282	1-124-927-11	ELECT	4.7MF	20%	50V	
C284	1-124-927-11	ELECT	4.7MF	20%	50V	
C285	1-136-171-00	FILM	0.33MF	5%	50V	
C286	1-136-175-00	FILM	0.68MF	5%	50V	
C290	1-123-875-11	ELECT	10MF	20%	50V	
C291	1-123-875-11	ELECT	10MF	20%	50V	
C292	1-123-875-11	ELECT	10MF	20%	50V	
C293	1-126-233-11	ELECT	22MF	20%	50V	
C294	1-123-875-11	ELECT	10MF	20%	50V	
		<DIODE>				
D251	8-719-110-48	DIODE RD18ES-B1				
D252	8-719-110-48	DIODE RD18ES-B1				
D253	8-719-110-48	DIODE RD18ES-B1				
D270	8-719-109-90	DIODE RD5.6ES-B3				
D271	8-719-911-19	DIODE 1SS119				

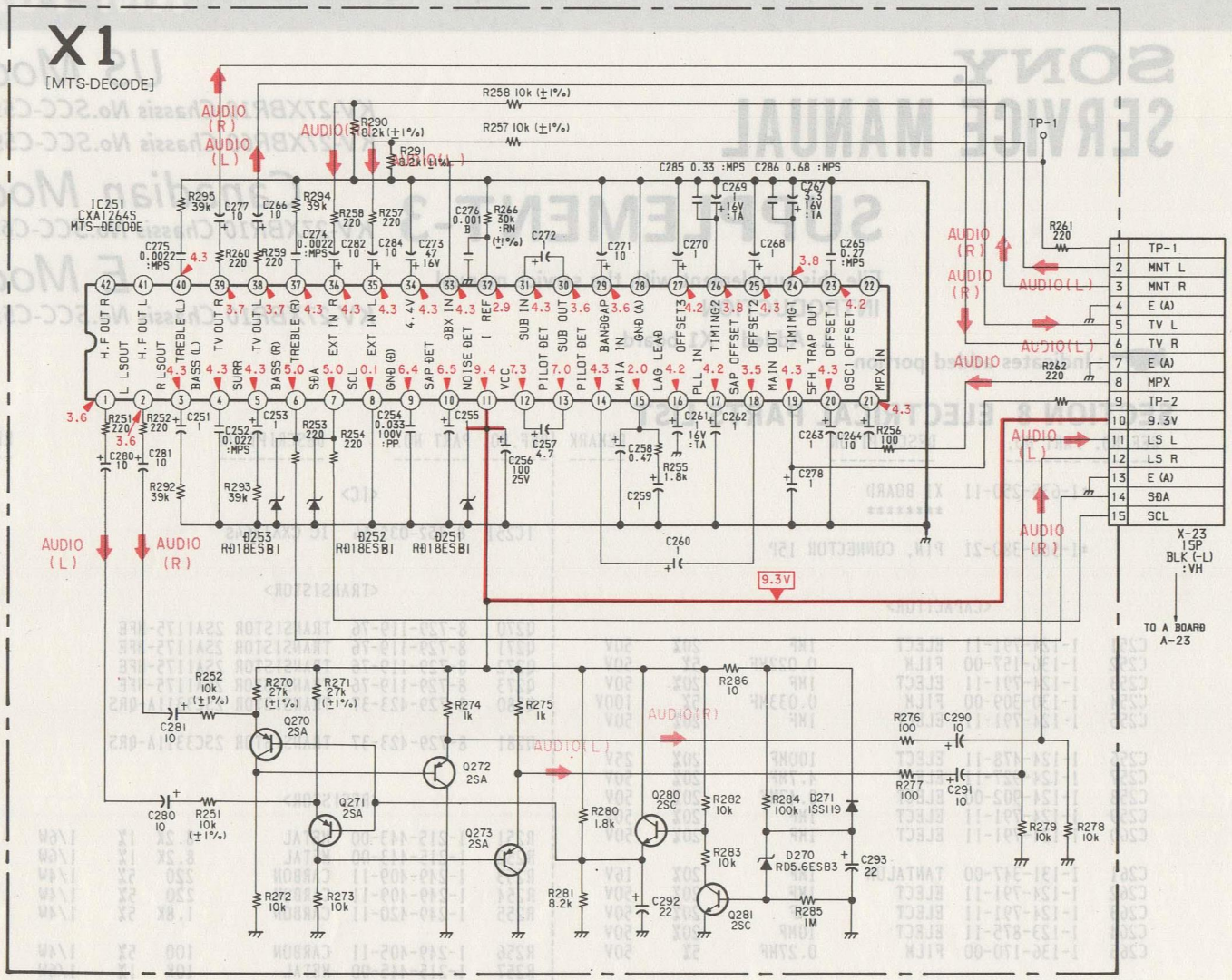
REF.NO.	PART NO.	DESCRIPTION			REMARK
		<IC>			
IC251	8-752-035-54	IC CXA1264S			
		<TRANSISTOR>			
Q270	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q271	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q272	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q273	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q280	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
Q281	8-729-423-37	TRANSISTOR 2SC3311A-QRS			
		<RESISTOR>			
R251	1-215-443-00	METAL	8.2K	1%	1/6W
R252	1-215-443-00	METAL	8.2K	1%	1/6W
R253	1-249-409-11	CARBON	220	5%	1/4W
R254	1-249-409-11	CARBON	220	5%	1/4W
R255	1-249-420-11	CARBON	1.8K	5%	1/4W
R256	1-249-405-11	CARBON	100	5%	1/4W
R257	1-215-445-00	METAL	10K	1%	1/6W
R258	1-215-445-00	METAL	10K	1%	1/6W
R259	1-249-409-11	CARBON	220	5%	1/4W
R260	1-249-409-11	CARBON	220	5%	1/4W
R261	1-249-409-11	CARBON	220	5%	1/4W
R262	1-249-409-11	CARBON	220	5%	1/4W
R266	1-215-456-00	METAL	30K	1%	1/6W
R270	1-249-428-11	CARBON	8.2K	5%	1/4W
R271	1-249-428-11	CARBON	8.2K	5%	1/4W
R272	1-215-455-00	METAL	27K	1%	1/6W
R273	1-215-455-00	METAL	27K	1%	1/6W
R274	1-249-417-11	CARBON	1K	5%	1/4W
R275	1-249-417-11	CARBON	1K	5%	1/4W
R276	1-249-405-11	CARBON	100	5%	1/4W
R277	1-249-405-11	CARBON	100	5%	1/4W
R278	1-249-429-11	CARBON	10K	5%	1/4W
R279	1-249-429-11	CARBON	10K	5%	1/4W
R280	1-249-420-11	CARBON	1.8K	5%	1/4W
R281	1-249-428-11	CARBON	8.2K	5%	1/4W
R282	1-249-429-11	CARBON	10K	5%	1/4W
R283	1-249-429-11	CARBON	10K	5%	1/4W
R284	1-249-441-11	CARBON	100K	5%	1/4W
R285	1-247-903-00	CARBON	1M	5%	1/4W
R286	1-249-393-11	CARBON	10	5%	1/4W
R290	1-215-441-00	METAL	6.8K	1%	1/6W
R291	1-215-441-00	METAL	6.8K	1%	1/6W
R292	1-249-433-11	CARBON	22K	5%	1/4W
R293	1-249-433-11	CARBON	22K	5%	1/4W
R294	1-249-433-11	CARBON	22K	5%	1/4W
R295	1-249-433-11	CARBON	22K	5%	1/4W

MICROFILM

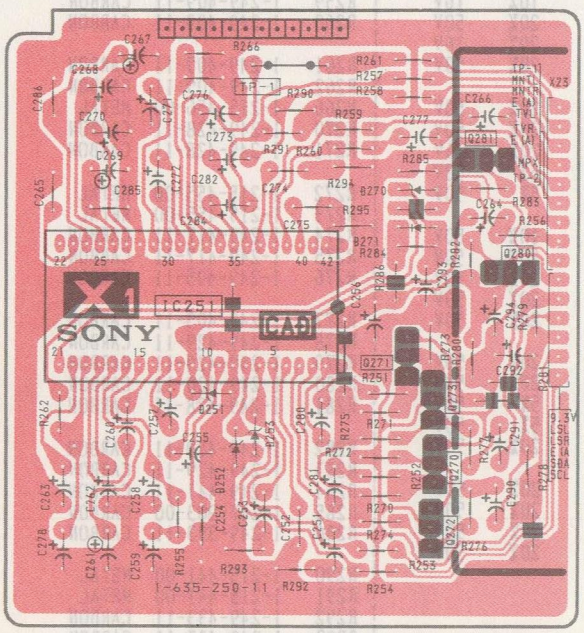
SECTION 6 DIAGRAMS

6-2.SCHEMATIC DIAGRAMS AND PRINTED WIRNING

X1 BOARD



—X1 Board—



Sony Corporation
TV Group

English
90HE0250-1
Printed in Japan
© 1990. 8

9-964-256-83

KV-27XBR10/27XBR60
RM-762A

SONY

SERVICE MANUAL

SUPPLEMENT-4

File this supplement with the service manual.

US Model
KV-27XBR10 Chassis No.SCC-C59A-A
KV-27XBR60 Chassis No.SCC-C59D-A

Canadian Model
KV-27XBR10 Chassis No.SCC-C60A-A

E Model
KV-27XBR10 Chassis No.SCC-C59A-A

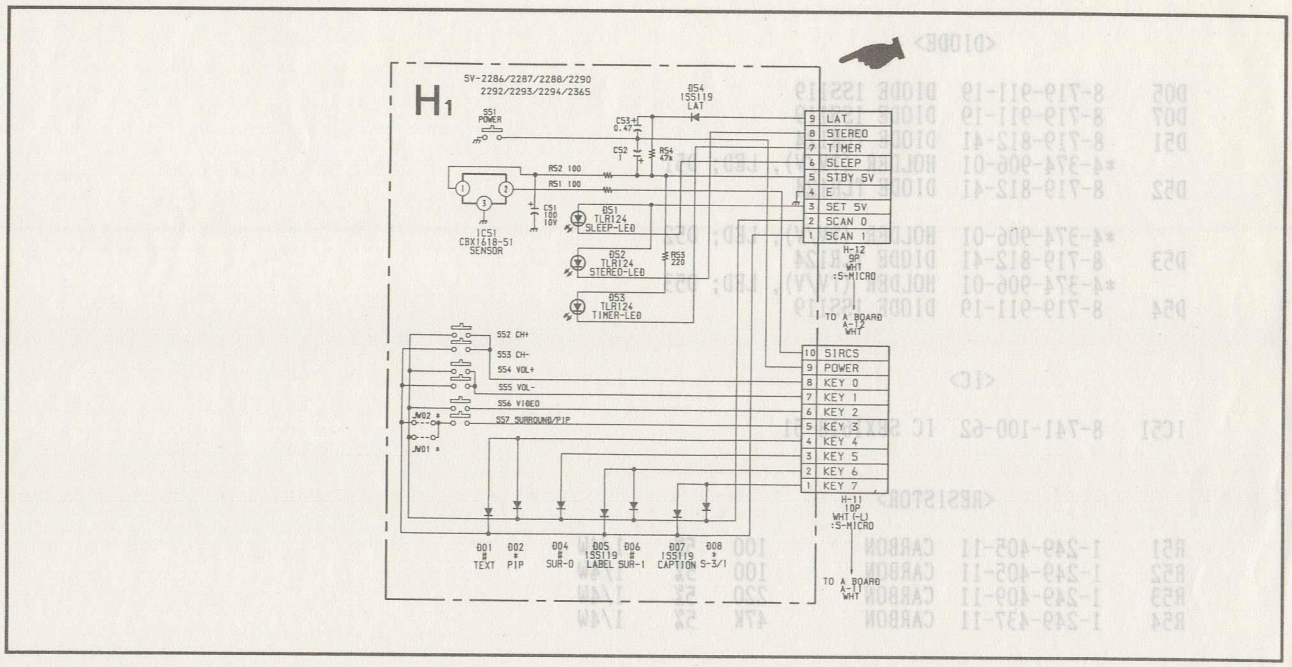
INTRODUCTION

1. Circuit boards sheall be chenged from H3,H4,H5 to H1.

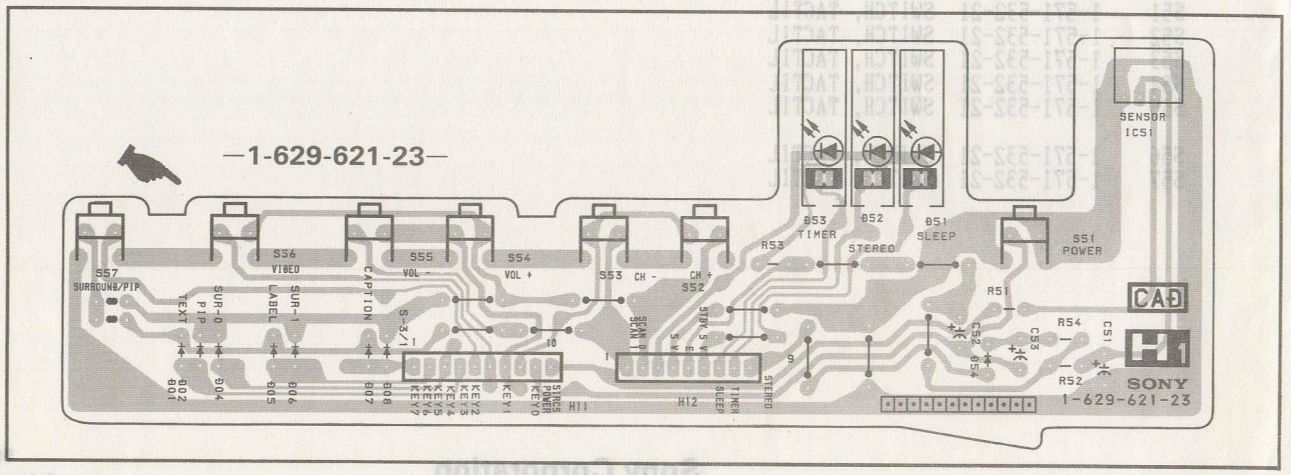
☛: Indicates added portion

SECTION 6 DIAGRAMS

6-4. SCHEMATIC DIAGRAMS



-H1 BOARD-



MICROFILM

SECTION 8 ELECTRICAL PARTS LIST

H1 BOARD

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*1-629-621-11	H1 BOARD			
		********			
	*1-564-524-11	PLUG, CONNECTOR 9P			
	*1-564-525-11	PLUG, CONNECTOR 10P			
		<CAPACITOR>			
C51	1-124-584-00	ELECT	100MF	20%	10V
C52	1-126-160-11	ELECT	1MF	20%	50V
C53	1-124-465-00	ELECT	0.47MF	20%	50V
		<DIODE>			
D05	8-719-911-19	DIODE 1SS119			
D07	8-719-911-19	DIODE 1SS119			
D51	8-719-812-41	DIODE TLR124			
	*4-374-906-01	HOLDER (TV/V), LED; D51			
D52	8-719-812-41	DIODE TLR124			
	*4-374-906-01	HOLDER (TV/V), LED; D52			
D53	8-719-812-41	DIODE TLR124			
	*4-374-906-01	HOLDER (TV/V), LED; D53			
D54	8-719-911-19	DIODE 1SS119			
		<IC>			
IC51	8-741-100-62	IC SBX1618-51			
		<RESISTOR>			
R51	1-249-405-11	CARBON	100	5%	1/4W
R52	1-249-405-11	CARBON	100	5%	1/4W
R53	1-249-409-11	CARBON	220	5%	1/4W
R54	1-249-437-11	CARBON	47K	5%	1/4W
		<SWITCH>			
S51	1-571-532-21	SWITCH, TACTIL			
S52	1-571-532-21	SWITCH, TACTIL			
S53	1-571-532-21	SWITCH, TACTIL			
S54	1-571-532-21	SWITCH, TACTIL			
S55	1-571-532-21	SWITCH, TACTIL			
S56	1-571-532-21	SWITCH, TACTIL			
S57	1-571-532-21	SWITCH, TACTIL			

9-964-256-84

Sony Corporation
TV Group

English
90JE1850-1
Printed in Japan
© 1990.10

TELETRON SERVICE CO.

4415 AURORA AVE.
SEATTLE, WASHINGTON 98103
(206) 633-0789
(206) 244-6900

INVOICE 44021

CUSTOMER Cutler, Craig
ADDRESS 115 150th We Apt A
CITY Bellevue, WA. STATE ZIP 98007
PHONE 643-0641 BUS ☐ MR ☐ MS

DATE RETURNED
DATE RECEIVED 10/17/91

COD	BB	CHARGE	SERVICE CONTRACT	CREDIT	COUNTER	PULL	COMPLETE SET	CHASSIS

DEALER - CUSTOMER
ADDRESS
CITY STATE ZIP
PHONE

MAKE Sony
MODEL KV27XBR10
SERIAL
PURCHASE DATE
SALES SLIP
PURCHASE ORDER

☐ CONSOLE ☐ PORTABLE
UNITS

☐ COLOR ☐ MICROWAVE ☐ CASSETTE
☐ B/W ☐ VTR ☐ CD PLAYER
☐ STEREO ☐ CAM CORDER ☐ REMOTE
OTHER

PERFORMANCE DEFECT

ESTIMATE _____ TO _____

ESTIMATES (EXCLUDING LOCAL AND STATE TAXES) INCLUDE PARTS, LABOR AND HANDLING. IF UPON CLOSER ANALYSIS THIS ESTIMATE MUST BE REVISED, YOU WILL BE CONTACTED.

DAYS TO COMPLETE _____ TO _____

SUBJECT TO PARTS AVAILABILITY.

CRT/VIDEO HEAD CONDITION
☐ - EXCEL
☐ - GOOD
☐ - FAIR
☐ - POOR

QUALIFIES FOR SERVICE CONTRACT
☐ YES
☐ NO

ACCEPTANCE: I HEREBY AGREE TO THE ESTIMATE PROVIDED AND/OR AUTHORIZE THE WORK OUTLINED TO BE PERFORMED AND AGREE TO CALL FOR COMPLETED UNITS WITHIN 60 DAYS.

CUSTOMER'S SIGNATURE X

REVISED ESTIMATE	RECEIVED BY	FROM
DATE	TIME	☐ APPROVED ☐ DECLINED

PARTS

TUBE GRADE	TYPE	PICTURE TUBE SERIAL	AMOUNT

QTY	PART DESCRIPTION	AMOUNT
1	Service Manual	30.00

TOTAL PARTS

GUARANTEE: ☐ IN HOME ☐ CARRY IN ONLY

FROM THE DATE OF THIS INVOICE, SERVICES HEREIN PERFORMED ON THE ABOVE UNITS ARE GUARANTEED FOR A PERIOD OF _____ DAYS AND PARTS AS ITEMIZED, GUARANTEED _____ DAYS. IF REPLACED, THE PICTURE TUBE IS WARRANTED FOR A PERIOD OF _____ MONTHS.

NOTE: WHERE MINOR SERVICE WAS CHARGED AND ADDITIONAL SERVICE BECOMES NECESSARY DURING THE LABOR WARRANTY PERIOD, ADDITIONAL SERVICE CHARGES WILL CONSIST OF ONLY THE DIFFERENCE BETWEEN THE MINOR AND THE MAJOR SHOP SERVICE RATE.

I HEREBY ACKNOWLEDGE RECEIPT OF SERVICES, OLD PARTS AND/OR SET DESCRIBED ABOVE.

CUSTOMERS SIGNATURE X Craig K. Cutler DATE 10-23-91

SERVICES PERFORMED

TECHNICIAN	TRIP CHARGE		
	FIELD SERVICE AND/OR REMOVAL		

Paid in Full

TECHNICAL SERVICE — SHOP LABOR

SHOP TECHNICIAN
INVOICED BY
RETURNED BY

SET LOCATION

TOTAL LABOR		
TOTAL PARTS	30.00	
SUB TOTAL		
SALES TAX	2.48	
TOTAL		
LESS DEPOSIT OR COLLECTED ESTIMATE		
BALANCE DUE	32.48	

THANK YOU FOR LETTING US SERVE YOU.

PAYMENT SCHEDULE
CASH ☐ CHECK ☒ BANK CARD ☐

CHECK - BANKCARD NO. #3248 EXPIRES

TELETRON SERVICE CO.

4415 AURORA AVE.
SEATTLE, WASHINGTON 98103
(206) 633-0789
(206) 244-6900

CUTLER

☐ ESTIMATE FEE ONLY ☑ DEPOSIT

☐ CASH ☑ CHECK ☐ BANKCARD

DATE 10-13-91 AMT 52.42

RECEIVED BY RT

CLAIM CHECK

No. 44186

THANK YOU FOR LETTING US SERVE YOU.
PLEASE CALL FOR COMPLETED REPAIRS WITHIN 60 DAYS.
AFTER 90 DAYS STORAGE CHARGES OF 6.00 PER MONTH APPLY.